THE CANADIAN NURSE

UME 51 • NUMBER 4
MONTREAL

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L'Infirmière Canadienne

VOLUME 51 **NUMBER 4**

APRIL 1955

262 New Products

269 Chase Out Fear and Ignorance

270 Background Information of Tuberculosis .... *M. McGrath and E. Capling*

273 Drugs in the Treatment of Tuberculosis ..... *E. Ross*

277 Modern Trends in the Surgical Treatment of Pulmonary Tuberculosis .... *A. Paine*

283 Tuberculose Pulmonaire et Chirurgie Thoracique .... *C. Bégin*

285 The Prevention of Tuberculosis in Nurses .... *M. Harlow and C. Stewart*

290 Nursing in Tuberculosis Surgery .... *E. Hassett*

293 Psychological Problems of Tuberculous Patients .... *P. Neville*

295 Nursing Investigation of a Tuberculosis Outbreak .... *P. Batt*

297 Student Affiliation in a Hospital for Tuberculosis .... *E. Eldridge*

299 Affiliating in a Tuberculosis Hospital ..... *L. Fulford*

302 My Attitude has Changed .... *J. Black*

304 Nursing Across the Nation

308 Le Nursing à Travers le Pays

312 Sélection

316 Book Reviews

320 News Notes

336 Official Directory

The views expressed in the various articles are the views of the authors and do not necessarily represent the policy or views of The Canadian Nurse *nor of the Canadian Nurses' Association.*

Editor and Business Manager
MARGARET E. KERR, M.A., R.N.

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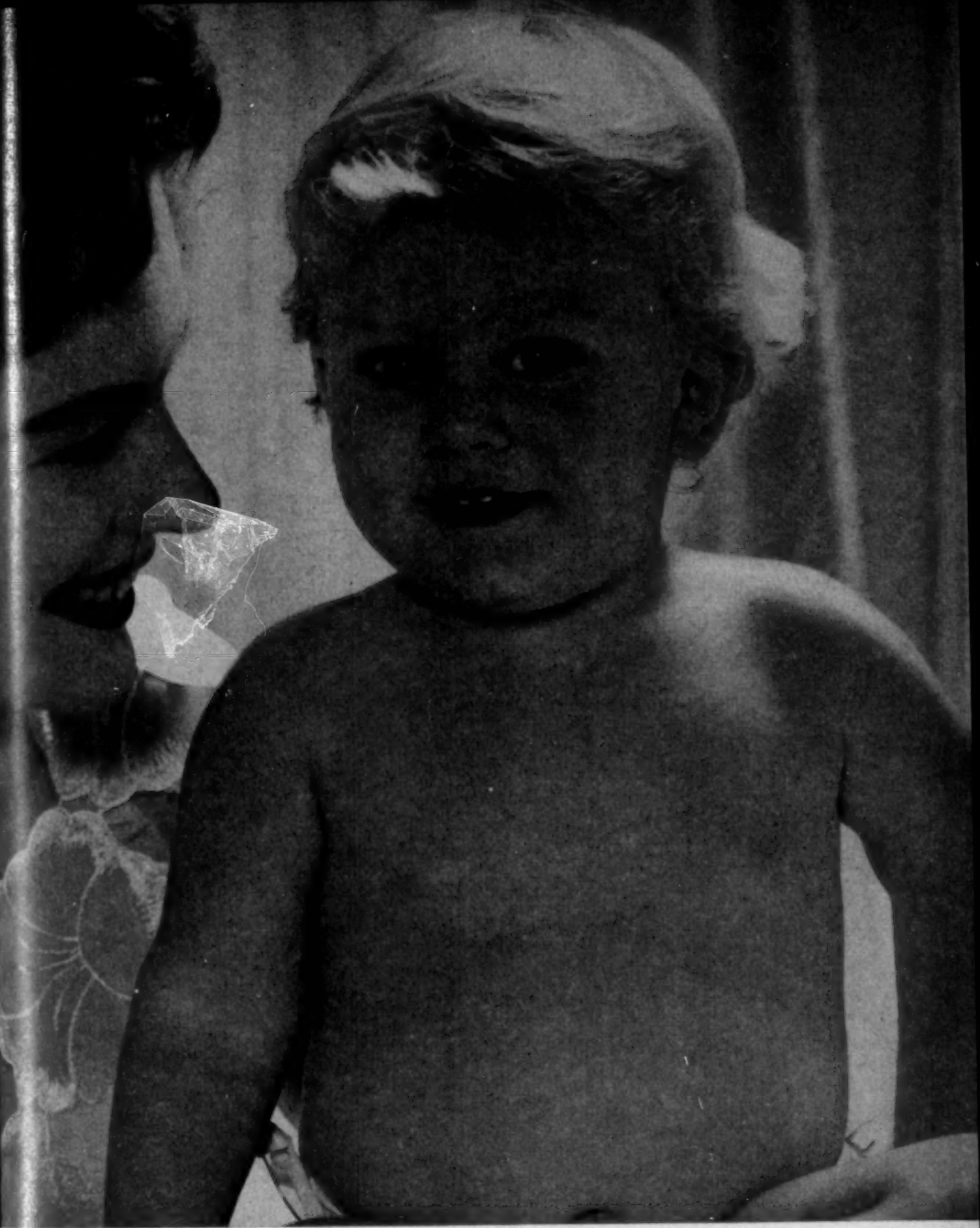

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Since the beginning of this century there has been a very significant change in the mortality rates so far as **tuberculosis** is concerned. The most recent figures released by the Dominion Bureau of Statistics show that the death rate has dropped from 47.2 per 100,000 of the population in 1946 to 12.3 per 100,000 in 1953. The following table reveals the encouraging fact that improvements, even in one year, were made in every province.

	1952	1953
Canada	17.1	12.3
Alberta	12.9	6.8
British Columbia	17.9	11.9
Manitoba	14.4	11.0
New Brunswick	19.0	12.9
Newfoundland	46.8	29.0
Nova Scotia	14.4	10.9
Ontario	8.4	6.4
Prince Edward Island	23.3	12.3
Quebec	26.5	19.8
Saskatchewan	12.3	10.1

While this achievement is noteworthy and gratifying, it does not, in any sense, mean that the battle against tuberculosis is nearly won. Rather, the credit for this saving of lives must go to the intensified campaign that is being waged ceaselessly to find the new victims as early in the disease as possible. The fact that 10,545 new cases of tuberculosis were discovered in Canada during 1953 indicates the truth of a recent statement made by Dr. René Dubos in the *American Review of Tuberculosis*:

> By reducing the death rate we have simply converted a killing into a chronic disease . . . To prevent death from tuberculosis was a sufficient ideal for the beginning of the anti-tuberculosis movement. But each generation must accept new responsibilities. Ours is to prevent tuberculosis from continuing to cause the waste of life and destruction of human values in those who suffer from but do not die of it . . . It will be justified to speak of the conquest of tuberculosis only when at least one of three goals has been reached: to stop completely the spread of infection; to eradicate the bacilli from the infected person; to prevent infection from expressing itself in the form of lesions and symptoms.

* * *

Chemotherapy and surgical intervention are the two modern weapons that have been added to the armament of those who battle tuberculosis. Both of these topics are presented in this issue by experts.

Of equal importance to us, professionally, are the proposals made regarding the provision of affiliation in tuberculosis nursing for student nurses. The nurses' section of the Canadian Tuberculosis Association, at their convention in June, 1954, unanimously endorsed the proposal that "in order to develop a realization of the scope of this field of nursing in its broadest application, affiliation in tuberculosis nursing should be included in the undergraduate course for all student nurses."

At the recent C.N.A. Executive Committee meeting the present practice regarding tuberculosis affiliation revealed wide variations in the different provinces as this tabulation indicates:

Alta.: Six weeks—some of the students.

B.C.: Eight weeks—all students.

Man.: Four weeks—either tuberculosis or communicable diseases.

N.B.: Approved in principle, none at present.

Nfld.: Under consideration.

N.S.: Two months—some of the students.

Ont.: Four weeks—not mandatory.

P.E.I: None in either tuberculosis or communicable diseases.

Que.: French students—four weeks for some. English students—two weeks with tuberculous children.

Sask.: Six weeks—most of the students.

* * *

As we were working on the final steps to send this issue to press, word reached us of the sudden passing of the gallant soul of Marion Lindeburgh to her final rest. Tribute will be paid to her next month when we publish the last of her articles. It relates chiefly to student nurses. We commend it particularly to them.

Our last letter from Miss Lindeburgh was written just three days before she died — after she had received and read the *Journal's* golden anniversary issue. She wrote, in part:

"While historical, it contains a marvellous uplift and *forward* outlook . . . The number exemplifies and illustrates so completely (in analogy) the Conquest of Everest. I am getting my thoughts on paper for the next article under the topic 'Personnel.'"

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New Products

Edited by DEAN F. N. HUGHES

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BEVIDORAL FILMTABS

Manufacturer: Abbott Laboratories Ltd., Montreal.

Description: Each tablet contains ½ U.S.P. antipernicious anemia oral unit of Vitamin B_{12} with intrinsic factor concentrate. Tablets are coated by a film sealing process which provides a quickly disintegrating, easy-to-swallow tablet.

Indications: For oral treatment of pernicious anemia and post-gastrectomy anemia. In conjunction with folic acid, may be used in the therapy of macrocylic anemias, including macrocytic anemias of pregnancy and tropical and non-tropical sprue.

Administration: Usual adult dose, two tablets daily.

DONNATAL TABLETS

Manufacturer: A. H. Robins Co., Montreal, Que.

Description: Each pale green tablet of Donnatal contains hyoscyamine sulfate 0.1037 mg. atropine sulfate 0.0194 mg., hyoscine hydrobromide 0.0065 mg. and phenobarbital (½ gr.) 32.4 mg.

Indications: In the treatment of numerous conditions characterized by visceral spasm or smooth muscle hyperactivity where additional sedation is desired. Indications include: pylorospasm spastic colon, peptic ulcer, nausea, mucous colitis, diarrhea and dysentery, biliary colic, ureteral colic, cystitis, enuresis in children, dysmenorrhea, parkinsonism, and selected cases of hypertension.

Administration: 1 or 2 tablets 2 or 3 times daily, or as directed by physician.

HALABAR

Manufacturer: *Can. Dist.:* W. Lloyd Wood Ltd., Toronto, Ont.

Description: Each tablet contains: Butabarbital ¼ gr., mephenesin 300 mg.

Indications: Nervousness, tension, anxiety states.

Administration: Usual dosage, one tablet after meals and one at bedtime if necessary.

HYDROCORTONE, INFUSION CONCENTRATE

Manufacturer: Merck & Co. Ltd., Montreal.

Description: Each 20 cc. ampoule contains 100 mg. in 50% ethanol.

Indications: For emergency use in critical situations where an immediate response is desired, e.g., status asthmaticus, acute allergic emergencies, shock states, Addisonian crises, disseminated lupus erythematosys crisis, and adrenalectomy.

MERATRAN

Manufacturer: The Wm. S. Merrell Co., St. Thomas, Ont.

Description: Each tablet contains 1 mg. Meratran (pipradrol) hydrochloride.

Indications: Emotional fatigue and depressed states. Acts on the subcortical area of the brain. Restores emotionally tired and/or depressed patients to their usual level of alertness, interest and productivity without euphoria.

Administration: 3 to 6 mg. daily, given in divided doses, t.i.d. Initial dose of 3 mg. may be increased **if needed** to 6 mg. daily.

OXSORALEN

Manufacturer: *Can. Dist.:* J. M. Marsan & Co. Ltd., Montreal.

Description: Each capsule contains: 10 mg. of S-Methoxypsoralen. Each 1 oz. bottle of lotion contains: 1% of S-Methoxypsoralen.

Indications: Orally or in combination (i.e. oral and topical) or topical, for the treatment of idiopathic vitiligo commonly called leucoderma.

Administration: In oral therapy. This is a potent drug. Read directions carefully. *Adult:* Two capsules at one time during the day, approximately two hours prior to exposure to sunlight.

Children: 1 to 6 years of age—one capsule daily; 6 to 12 years of age—one to two capsules at one time during the day, approximately two hours prior to exposure to sunlight.

In combined therapy—(Oral and Topical)

Caution: This topical medication should not be applied by the patient. It should be applied only by the physician since serious burning can result from incorrect use.

Contraindications: Should not be taken in the presence of hepatic insufficiency or diabetes mellitus. Has no effects on leucoderma associated with destruction of melanocytes which occurs following severe burns and trauma. It is not known to influence leucoderma consequent to infections such as pinta or leprosy.

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Description: Each capsule contains 200,000 units of soluble, unflavored, unbuffered Penicillin G Potassium per two-piece capsule.

Indications: For oral treatment of penicillin-susceptible infections in infants and children.

Administration: In doses as prescribed; capsule to be opened and contents added to milk, infants' formula, fruit juice, ginger ale, or similar vehicle.

POLYCYCLINE PEDIATRIC DROPS

Manufacturer: Bristol Laboratories of Canada Ltd., Montreal.

Description: Each cc. of oral suspension contains 100 mg. of Tetracycline HCl in a creamy vehicle flavored with crushed fruits.

Indications: For oral treatment of infections in children, when due to organisms sensitive to tetracycline.

Administration: Dropped into the mouth or mixed with orange juice or milk. Dosage for children on a body weight basis: 10 mg. per lb. per 24 hours. Doses should be equally divided and given at intervals of 3 to 6 hours.

QUINOPULMIN

Manufacturer: *Can. Dist.:* Brent Laboratories Ltd., Toronto, Ont.

Description: A combination of quinine and camphor dissolved in essential oils.

Indications: As an adjuvant in acute and chronic bronchitis and as prophylaxis against pulmonary complications in influenza and other upper respiratory conditions.

ROETINIC CAPSULES

Manufacturer: Chas. Pfizer & Company, Montreal.

Description: A soft gelatin, mahogany red capsule containing one U.S.P. unit of vitamin B_{12} with intrinsic factor concentrate, folic acid, ascorbic acid, ferrous sulphate, molybdenum, cobalt, copper, manganese, and zinc.

Indications: Roetinic is indicated in the treatment of all anemias that can be controlled and treated without transfusion. Although not specifically indicated, it may be used as adjunctive therapy in anemias accompanying cancer, leukemia, and congenital disorders, as well as Gooley's anemia, sickle cell anemia, and aplastic anemia.

Administration: Orally, one capsule daily or as prescribed.

SECO-TRAZOL

Manufacturer: Anglo-French Drug Co., Ltd., Montreal.

Description: Each capsule contains: secobarbital sodium 100 mg. (1½ gr.) or 50 mg. (¾ gr.), pentylenetetrazol 300 mg. or 150 mg.

Indications: As a hypnotic, sedative and analgesic.

Administration: Average dose: one capsule.

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Administration: By nose-dropper.

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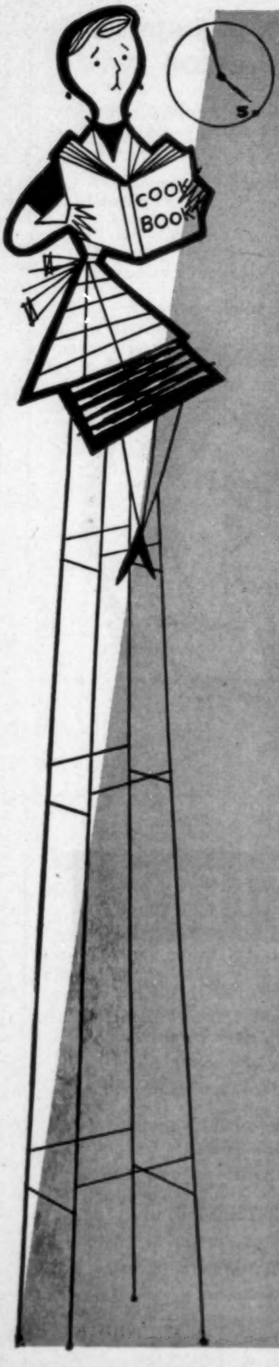

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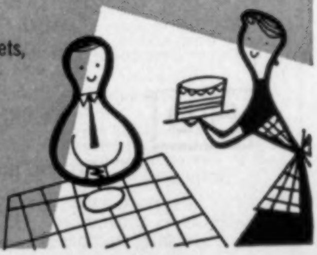

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THE CANADIAN NURSE
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A MONTHLY JOURNAL FOR THE NURSES OF CANADA
PUBLISHED BY THE CANADIAN NURSES' ASSOCIATION

VOLUME 51 NUMBER 4

MONTREAL, APRIL, 1955

Chase out Fear and Ignorance

WHEN ROBERT KOCH isolated the bacilli of tuberculosis over 70 years ago a whole new vista of cure, prevention and education was opened up. There was the cause. Now all that was necessary was to find appropriate means of destroying those bacteria wherever they might exist and the "great white plague" could be banished. What a happy place the world would become!

Though experience has proved that this pious hope will not be realized for many generations to come, tremendous strides have been taken in reducing the incidence of tuberculosis. Where once it ranked high in the general mortality table as a cause of death, it has now dropped well down on the list. Much has been accomplished — much remains to be done.

One of the most important aspects of the prevention program is the need for a continuing educational campaign. Tuberculosis associations are active in every province seeking to provide the basic facts about control of the disease to the general public. In the schools, every student has had an opportunity to acquire this information through regular classroom instruction. How well has the general public assimilated all of these facts? What do people know about tuberculosis?

Some very revealing answers to these questions appear in the *Bulletin of the National Tuberculosis Association* for February, 1955.

On the basis of one national and several local public opinion polls conducted since 1947, it seems that 70 per cent of those polled knew that tuberculosis is catching, but only slightly more than 20 per cent knew it is caused by a germ. One wonders how this can be explained, or how these figures fit in with the fact that less than 50 per cent . . . knew that tuberculosis is not inherited. Between 75 and 90 per cent knew that a person with tuberculosis can be cured . . .

The polls indicate that the public has acquired a fair amount of knowledge about tuberculosis . . . but there is no way of knowing how much basic understanding the public has of the facts which it knows well enough to recite.

How well do nurses know the facts about tuberculosis? There is no specific answer to this question but perhaps the fact that the staffing of specialized hospital for tuberculous patients continues to be a serious problem may be taken as an indicator. Why do nurses refuse to accept positions that are open in sanatoria? The salaries and working conditions are identical with those in general hospitals. In most instances the living accommodation is superb. There are patients needing the understanding care a qualified nurse can give. Why do so many nurses shrink from this service?

The common denominator in this refusal is fear — fear generated by inexperience and ignorance. The articles in this issue may help to provide information to a limited degree. Affiliation courses for all student nurses would provide both experience and education. Postgraduate courses are available for those who have graduated. Let us have done with fear and ignorance and accept our role as nurturers of the sick — including those with tuberculosis. Let us know the facts so that we, too, can assist in educating the public, working towards the day when tuberculosis will be conquered.

Background Information on Tuberculosis

Mary McGrath and Earla Capling

Tuberculosis is as old as mankind. It was described fairly fully by writers who lived centuries before Christ. It was probably not worldwide in occurrence since no evidence of it has been found among the early races of North America prior to the landing of Europeans after 1492.

In ancient times tuberculosis was considered a curse comparable to leprosy. It was described as an "unclean, incurable disease and an impediment to marriage" in the Hindu Laws of Manu in 1000 B.C. Hippocrates, in the fourth century, B.C., wrote the first detailed description of the disease he named phthisis "which leads to suppuration and ulceration of the lungs." Treatment was limited to hygienic living with proper diet. Five hundred years later, Galen found curious nodules in lung tissue. He did not understand their significance though he did associate them with phthisis.

It was a thousand years before any new developments in medical science brought fresh light in the problem of consumption. In 1546, Michael Servetus propounded his concept of the pulmonary circulation. Zacharias Janssen invented the compound microscope in 1590. Marcello Malpighi demonstrated the vascular nature of lung tissue and its capillary circulation in 1661. Twenty years later Richard Merton recognized tubercles as primary factors in phthisis. Early in the eighteenth century Pierre Desault wrote a description of the tubercle and stated his belief that the sputum was the means of spreading the disease. Thus the reawakening of the inventive spirit and the search for new knowledge spread from country to country.

Discoveries in the nineteenth century gave new impetus to the fight against tuberculosis. Theophilus Laënnec's invention of the stethoscope in 1815 and his subsequent classic description of tuberculosis stirred an interest in the possibility of more accurate diagnosis. The name "tuberculosis" as a subtitute for "phthisis" was introduced in 1834. Villemin, a French physician, proved by inoculation with tuberculous material in 1868 that the disease was transmissible. Then, in 1882, Robert Koch isolated the causative organisms. He made an emulsion of dead tubercle bacilli which he named "tuberculin." It is used now as one of the aids in diagnosis. Finally, William Roentgen's development of x-ray equipment in 1895, made an early diagnosis a possibility.

With the realization of the infectivity of tuberculosis came a movement to provide sanatoria for the isolation of the known victims. The first successful sanatorium was opened in Germany in the mid-nineteenth century. Dr. Edward Trudeau established the first such institution in North America in 1885. Unfortunately, since only the far advanced cases went to sanatorium, such places were regarded with dread. Many were unwilling to go. The treatment was long, tedious, and expensive. Those patients who showed evidence of returning health left the sanatorium for their homes in the interest of their own purses. After some years, public spirited citizens began to realize the benefits that would result from segregating these infected people in properly equipped sanatoria that were maintained at public expense. Saskatchewan was the first province in Canada to make the treatment of tuberculosis free to all.

Until early in the twentieth century concern about tuberculosis was largely limited to the scientists, the physicians and the patients. Gradually, tuberculosis associations came into being, the membership open to lay people. Through the activity of these organizations, legislation for the control and prevention of the disease was enacted. One of the biggest strides was the introduction, in 1917, of extensive tuberculin testing of cattle and the extermination of infected animals. Compulsory pasteurization of milk has virtually wiped out tuberculous infection of bones and joints.

Tuberculosis is no respecter of persons. Like the rain that falls on the just and the unjust, this illness has attacked the brilliant, the average, and the dull. A complete list of famous men and women who have died from it would be overwhelming. In the overall picture, it is more commonly found in men than in women although below 40 years of age the death rate among females has always been higher. Aboriginal races, with no immunity and often little resistance, show a high mortality rate. Workmen exposed to the inhalation of mineral or metal dusts are often victims. Well nourished people from good homes present a smaller percentage of new cases than do poor inhabitants of slum areas. Hospital workers who have come in close contact with unknown open cases have been an easy prey.

The factors determining whether a person will be a victim of the killer are: Dosage, virulence, resistance of the host. No matter how the organism enters the body, be it through the respiratory or digestive tract or skin, it causes trouble if it finds a point where there are tissues with lower power of resistance providing favorable soil for growth.

The most common form of tuberculosis is pulmonary.

1. *Minimal:* There are slight lesions without demonstrable excavation, confined to a small area in one or both lungs. The total extent does not exceed the equivalent of the volume of lung tissue which lies above the second chondrosternal junction, and the fifth thoracic vertebra on one side.
2. *Moderately advanced:* One or both lungs may be involved but not more than the equivalent of one-third of the volume of one lung.
3. *Far advanced:* The lesions are much more widespread.

Tubercle bacilli do not invade with flashing lights or ringing bells; they lie in wait in careless or ignorant tuberculous persons. Consequently we may not know when we have been in contact with the disease. Primary infection may not cause any symptoms of illness, since nature has provided some defense measures. Even though the body cannot destroy all the organisms, it fences them about and tries to wall them off inside calcium cases. They remain alive though shut up so that they cannot spread throughout the system. There are no immediate symptoms of the invasion.

If the body barriers are low due to exhaustion, fatigue, or lack of sleep, the lesion is progressive. The first dose may be harmless, but the reinfection from it will, under suitable conditions, produce such symptoms as: Cough, expectoration, hemoptysis, dyspnea, chest pain, wheeze. Generalized symptoms follow: Easy fatigue, anorexia, loss of weight, increased fever and pulse rate, night sweats. After the tubercle bacilli have mutiplied and destroyed considerable lung tissue, the walls of the bronchi running through the diseased part become weakened and break down. The broken down material is coughed up as sputum. If the wall of a blood vessel breaks down, the victim begins coughing blood (hemoptysis).

The recognition of tuberculosis in the minimal stage is, in many instances, quite difficult as there are so few warning signals. In diagnosis, the tuberculin test and x-rays have proven of value. A positive tuberculin indicates that the individual has been infected at some time but does not tell whether there is an active lesion. X-ray confirms or rules out pulmonary involvement. However, extrapulmonary tuberculosis also causes positive tuberculin reaction. A thorough physical examination, x-ray and laboratory work consisting of a sputum examination, blood count and sedimentation test, will lead to accurate diagnosis.

Complications of pulmonary tuberculosis vary. They may result from extension of the tubercle along air passages, extension by the blood stream or lymphatics. Tuberculous laryngitis is caused by continued passing of infected material through that area. Tuberculosis of the intestine may result when bacilli are raised in sputum and swallowed. They may be implanted in the lymphatics of the small and large intestine and tuberculous ischiorectal abscess may result. Tuberculous empyema may develop in the pleural cavity. If the lesion ulcerates through the pleura of the lung and allows air into the pleural cavity, spontaneous collapse causing severe dyspnea occurs.

Because spontaneous collapse sometimes occurred with beneficial results, doctors began to wonder if gradual collapse would be of any value. A broken bone or cut finger heals faster if kept at rest. Collapse puts the lung at rest. Why not splint the lung, if possible? C. Forlanine, of Paris, first introduced pneumothorax for therapeutic use in 1894. John B. Murphy, of Chicago, used this technique in 1898. Nevertheless it was not given much attention until Brauer and Spengler, German physicians, used it as a preferred form of treatment early in the twentieth century. Modern surgery today accomplishes a more effective means of putting the lung at rest.

New advances in medicine or surgery are now saving thousands of tuberculous persons. Together these give a new lease on life to those who feared death. Increased knowledge of this disease will help to sentence another killer to die.

In the Good Old Days

(*The Canadian Nurse* — April 1915)

"Medical inspection of school children in British Columbia is provided for by an Act passed in 1910 . . . This Act provides for one regular inspection each year . . . Fifty cents is paid the medical examiner for each child inspected . . . The government in 1914 appointed a provincial school nurse to follow up the work of the medical inspectors . . . The war has interfered with the expansion of this service."

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"To make the course of preliminary training most satisfactory and economical both in time and labor, student nurses should be admitted twice annually instead of scattered groups of a few at a time as has been the practice."

* * *

"Nursing is a really fine calling. When a young lady is getting on in years and does not seem to be likely to marry, there is nothing like having a good profession to fall back on."

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"The public, in general, pays us this high tribute: it looks upon us, not as the hirelings of its person, but as members of its body corporate who, as carers for and nurturers of the sick, confer by our conscientious ministry debts that can never be repaid. It is for us to maintain by our own moral attitude that subordination of the material return received to the primary claims upon us of our patients' highest welfare, that lifts our calling out of a business into a profession, while still procuring to us the means of an honorable livelihood." (Now you know what is meant by being professional!)

Drugs in the Treatment of Tuberculosis

E. L. Ross, M. D.

MAN'S EFFORTS TO CONTROL the white plague have been characterized through 5,000 years of recorded history by confusion and superstition, by following "will-o-the-wisps, and hereditary diatheses." For centuries a cure has been sought and, indeed, in view of present knowledge the various concoctions and forms of witchery resorted to are amusing.

During the last century great advances were made in the clinical and pathological understanding of tuberculosis but man was still groping in the dark for a cure as the cause of the disease was unknown. The dawn of intelligent effort to cope with this inveterate foe, both for its prevention and cure, came with Koch's discovery of the tubercle bacillus in 1882. During the next 50 years the sanatorium came to the fore as did an appreciation of the prevention of infection in the role of eradication.

Immediately prior to antibacterial drug therapy the treatment of pulmonary tuberculosis was based, broadly speaking, upon rest, environmental influences (sanatorium) and lung collapse, such as pneumothorax and thoracoplasty. Today we can add chemotherapy and excisional lung surgery. In the words of Dr. H. Corwin Hinshaw, "Each of these approaches in treatment is from a different angle and, fortunately, no one excludes the others; in nearly all cases two or more methods are being used simultaneously in the treatment of any one patient."

My subject concerns chemotherapy so I cannot discuss treatment generally. It is necessary, though, that you understand the relationship of drug treatment to other established methods and realize that they are not excluded but rather enhanced in their effectiveness. For example, the newer drugs have made possible a much wider use of surgical procedures.

Many drugs have been discovered during the past ten years that have anti-tuberculosis properties but the three most effective are: *Streptomycin (SM), Isonicotinic Acid Hydrazide (INH), and Para-aminosalicylic Acid (PAS).*

STREPTOMYCIN

The discovery of streptomycin by Dr. Selman Waksman in 1944 marked the beginning of a new treatment era. This antibiotic, derived from a soil fungus, was the first drug with a specific action against the tubercle bacillus that could be tolerated by the human body. At first the dosage was large and frequent and toxic effects created problems, but during the past ten years a great deal has been learned about streptomycin through clinical experience and laboratory research.

There are two great drawbacks to almost any form of drug treatment both of which are especially true in tuberculosis therapy. The first is the undesirable toxic effect of the drug; the second is the development of strains of tubercle bacilli that have become resistant to the drug. The germs muster their defensive forces and in time the drugs fail to inhibit their growth. Initially, the dosage of streptomycin was about three grams daily (in divided doses, intramuscularly.) Dizziness and deafness were frequent and serious complications. This regime was followed for from six and twelve weeks. By this time many patients, or at least their tubercle bacilli, had become resistant so that the drug was much less effective. Streptomycin suppresses but does not kill tubercle bacilli, so not infrequently with the shorter intensive courses initial improvement was followed by a recurrence of activity of the disease. We have since found that smaller doses given over a longer period are more effective and undesirable complications are avoided.

PARA-AMINOSALICYLIC ACID

PAS is mainly recognized today for its supporting role in chemotherapy. It has definite anti-tuberculosis properties but its main value is not in its individual use but rather its combination with other drugs, especially strep-

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tomycin. The effect of the drugs used together is much greater than when either drug is used alone. It was found, also, that by combining PAS with streptomycin the development of streptomycin-resistant tubercle bacilli was greatly retarded. This meant that the period of therapeutic value was extended. Courses of drug therapy, therefore, became much more prolonged and are now continuous for from 12 to 18 months and, in some cases, longer. The generally recognized dosage is one gram of streptomycin, intramuscularly, twice a week, and 10 to 12 grams of PAS daily in divided doses.

Isonicotinic Acid Hydrazide

INH, the most recent of the newer drugs, was announced dramatically and prematurely in the press early in 1952. It is a relatively simple synthetic compound made from a coal tar base. The formula had been known by chemists since 1912, but no one thought of testing it for anti-tuberculosis properties. In investigations of the coal tar compounds associated with the discovery of the sulpha drugs, a related chemical was found that had activity against tubercle bacillus but was fairly toxic. This was designated TB-1. Waksman's discovery of streptomycin in 1944 greatly stimulated the search for new anti-tuberculosis drugs. Two pharmaceutical firms, working independently, developed a compound chemically identified as Isonicotinic Acid Hydrazide (INH).

This drug has a very specific tuberculosis bacteriostatic action and is effective in low concentration. It is on a par with streptomycin but, as with streptomycin, its effect is enhanced and more prolonged when used in combination with other anti-tuberculosis drugs. It is considered to have more penetrating and diffusing qualities within the tuberculous lesion. A fairly high concentration of INH is maintained in the spinal fluid so in the treatment of tuberculous meningitis intrathecal injections of drugs are not generally considered necessary. Another advantage of INH it its low cost and simplicity of administration. It is given by mouth, the adult dosage usually being 300 mgm. a day (2-50 mgm. tablets three times a day).

As can readily be understood, the matter of drug resistance has a very important bearing on results of treatment. In planning an active treatment program, which may include surgery, this resistance factor has to be kept constantly in mind. The resistance pattern with INH is somewhat different to streptomycin. With all the drugs, clinical response may continue after laboratory studies show that the organisms are resistant and there is evidence that this is more striking with INH than with streptomycin—that is, when tubercle bacilli cease to be susceptible to streptomycin the value of the drug is greatly curtailed, but this difficulty is less pronounced in patients with INH resistant bacilli.

Other drugs, such as viomycin, terramycin and pyrazinamide, have a place in the total chemotherapeutic picture but I will not elaborate upon them. Streptomycin, INH and PAS in various combinations are the standbys to date. The question of what combinations and whether or not all three should be used initially and simultaneously is always a subject of discussion. Streptomycin and INH are two most potent drugs for prolonged treatment, but because of the chance of them being made ineffective by the development of resistant strains of tubercle bacilli, most doctors prefer to use only one at a time along with PAS. If streptomycin and PAS are used at the beginning or even throughout, we always have INH to fall back on. This may be important as one can never, with complete assurance, predict the future course of tuberculosis. It is comforting to have a potent drug up our sleeve.

There are, of course, exceptions. The initial infection may be overwhelming, such as with miliary disease or gross pneumonic involvement, in which all resources may need to be called upon immediately to save the patient's life. Also not too infrequently one of the drugs has to be discontinued due to some unfavorable reaction. In planning chemotherapy the long-term, total treatment program has to be envisioned, particularly bearing in mind the possibility of resectional surgery. Without the protection of an effective anti-tuberculosis drug during the surgical period, extension of disease and surgical complications are much more frequent.

VALUE

The drugs we have been discussing are not cure-alls for tuberculosis. Their value is much greater in some forms of the disease than in others. Pulmonary tuberculosis comprises 85 per cent of the tuberculosis being treated so our remarks apply mainly to this form. Broadly speaking, drugs have their greatest and most dramatic effect upon recent acute disease — that is, pneumonic, exudative or miliary. If the disease is chronic, fibroid and cavitary much less improvement can be anticipated. Chronic disease, however, is often a series of acute steps and most have some exudative component which will respond to chemotherapy. In all forms improvement in symptoms and toxemia are usually noted during the first few weeks of treatment but improvement as shown by the x-ray film is slower. With chemotherapy sputum may become negative for tubercle bacilli within a few months and, indeed, the majority of sanatorium patients are now non-bacillary. This of course lessens the chance of infection for those attending tuberculosis patients — nurses and others.

A few years ago when we had few drugs to use, with larger doses resulting in more patients developing resistant strains of tubercle bacilli, we hesitated to give streptomycin and PAS in the less serious manifestations of the disease, such as pleurisy with effusion, minimal pulmonary lesions and tuberculous adenitis. We saved the drugs for what might be a much greater need later. Now we think every active tuberculous lesion should have chemotherapy and, as we mentioned before, more prolonged courses. Some even advocate that a person known to have a recently converted positive tuberculin reaction should be treated with anti-tuberculous drug therapy, even in the absence of a demonstrable x-ray lesion.

Streptomycin, INH and PAS have had a profound effect upon the development of pulmonary resection surgery, which is now making a major contribution to the treatment of tuberculosis. Many patients would otherwise never have improved to a point where surgery was possible. The great dangers of surgery in the pre-chemotherapy days were post-operative spreads and other complications. Now there is little problem is this respect. Sanatorium rest with the help of drugs will usually clear the active components of the disease and localize the lung lesion so that surgical removal is possible and impairment of lung function is limited.

OTHER TUBERCULAR DISEASES

Tuberculous meningitis was fatal prior to streptomycin, and INH has further improved the outlook for such cases. Laryngeal and intestinal tuberculosis, very distressing complications, are now rare due to the control by chemotherapy of their source—the lung disease. Tuberculous tracheo-bronchitis, which greatly complicated treatment, responds favorably to drugs. Chemotherapy has improved the management of bone, joint and genito-urinary tuberculosis. Tuberculous cystitis, with painful and frequent micturition, is much less common. Tuberculous abscesses can be opened, excised and healed through the influence of streptomycin and INH. Tuberculous glands may be excised and the wound healed by first intention. Without further elaboration it is clear that the newer drugs have a profound effect upon tuberculosis of all organs of the body, the most striking being upon superficial and membrane lesions and the acute forms of pulmonary disease.

UNDERSIRABLE EFFECTS

I have briefly referred to some undesirable effects of these drugs. These can be quite troublesome and may

Patients in the outdoor

necessitate discontinuing their use. Dizziness due to semicircular canal disturbance was not uncommon when streptomycin was used in large doses; now it is rare. Dihydro-streptomycin did not cause dizziness and allergic reactions to it were less common, but it was more liable to cause deafness. Fairly frequent but seldom serious, are sensory symptoms caused by streptomycin, especially tingling sensations about the face and mouth. A patient may have an allergy or sensitiveness to streptomycin but this is rare. The administration of drugs, especially streptomycin, has given the nurse a more active role in the treatment of tuberculosis. She is the first to learn of symptoms suggesting toxic reactions so she must keep these in mind.

Of the three main drugs most difficulties arise with PAS. The most frequent problems are gastrointestinal symptoms, such as nausea, vomiting and diarrhea. These symptoms can usually be overcome by temporarily discontinuing the drug or decreasing the dose. Dermatitis due to PAS sometimes is troublesome. INH is tolerated better than either of the other drugs. Its side effects are directed mainly to the nervous system, such as causing a peripheral neuritis. It may also activate a latent epilepsy. In all drugs damage of kidney and liver functions needs to be watched for. It is mainly because of their toxic action that viomycin and pyrazinamide are not used more widely.

OUTPATIENT CHEMOTHERAPY

There has developed a demand among patients to have their drug treatment at home or at outpatient clinics, thus shortening or avoiding sanatorium treatment. This movement has gained more momentum in the United States than in Canada, in some instances being justified by a shortage of sanatorium beds. One cannot belittle the profound effect that streptomycin, INH and PAS have upon the arrest and cure of tuberculosis, but, as stressed at the outset, they constitute only a part of the treatment program.

In Canada we have ample sanatorium facilities in all provinces—indeed, there are vacant beds in most of them. Outpatient chemotherapy is discouraged because we believe the sanatorium and all that goes with it are essential for good treatment and lasting results. However, we should not have an entirely closed mind about outpatient chemotherapy. In some instances, after normal sanatorium requirements have been fulfilled and the patient has reached a high routine of activity, prolonged hospitalization just for the drug treatment may not be justified, yet having the drugs for a longer period may be advisable.

Tuberculous patients have always needed sanatorium treatment — months of it. Whether or not they are getting needles and pills they have the same psychological adjustments to make and the same personal and family problems, which need to be discussed unhurriedly and understandingly. With little pneumothorax and more surgery, with more x-ray films and laboratory tests to review and pathological findings to study, and medical conferences, I believe the doctor has less time and opportunity to listen to and appreciate "John Smith's non-medical problems." They do have an important bearing on cure. The nurses' roles in this respect has always been important in a sanatorium and is more so today than ever.

Chemotherapy has added to the nurses' worries and responsibilities in keeping patients on prescribed rest routines and controlling discipline, because usually in a matter of weeks toxemia has gone and with it the will to stay in bed. As mentioned earlier, not many patients in a sanatorium have positive sputum. It is a safer and more interesting place than ever from a nursing and medical point of view and chemotherapy and other advances in treatment almost guarantee a cure for the patient.

SUMMARY

Death rates from tuberculosis have been tumbling during the past five years, due mainly to the life saving drugs. The development of new cases of tuberculosis has only decreased slightly. Treatment has made greater strides than prevention. With treatment so effective the challenge to discover all existing cases of tuberculosis was never greater.

Drugs are used in combination and no one drug nor one combination may be suitable for all cases or all types of tuberculosis. Best results are obtained when drugs are given for a prolonged period — continuously for a year or more.

Chemotherapy by preventing spread of infection has greatly increased the use and safety of chest surgery, especially resection.

Drugs are not a substitute for sanatorium treatment and the patient's natural defences. They do not provide a shortcut.

Chemotherapy has given the nurse a more active part in treatment and, indeed, indirectly has broadened her interest and responsibility in tuberculosis nursing.

Chemotherapy has markedly lowered death rates from tuberculosis but new cases have decreased only slightly. The effective treatment of today emphasizes the need for greater case-finding efforts.

Modern Trends in the Surgical Treatment of Pulmonary Tuberculosis

A. L. PAINE, B. A., M. D.

EVOLUTION OF PRESENT CONCEPTS

GREAT ADVANCES HAVE BEEN MADE in the surgical treatment of pulmonary tuberculosis in the last few years. Changes are still taking place, not only in the development of new surgical techniques but also in the indications for the use of the various operations. In no branch of surgery has there been greater technical advance or greater controversy regarding the use of the new skill in the best treatment of this once-dread disease. However, all authorities agree that modern surgery has helped greatly in the vastly improved outlook for those with tuberculosis. The writer proposes first to briefly discuss the significant steps in the evolution of present day surgical concepts in tuberculosis.

For over half a century *rest* has been the basic treatment of pulmonary tuberculosis. Rest is still the mainstay of modern treatment and the tuberculosis specialist considers all surgical measures, even the most recent, as adjuncts to rest and in no way replacing it. Almost as soon as the principle of general rest was accepted as basic treatment, various surgical procedures were instituted to apply local rest to the diseased lung through various combinations of collapse, limitation of movement, and relaxation. These procedures, such as pneumothorax, phrenic operation, and various forms of thoracoplasty, were in general use by the mid-twenties and reached their heyday in the mid-forties.

During this era surgical collapse was used, not only to help heal disease that had become quiescent, but also in acute cases to control its spread and bring clinical improvement by reducing symptoms such as cough and sputum, and relieving toxemia due to circulating toxins. Surgical and semi-surgical collapse measures saved the lives of many patients who would have died on rest treatment alone and returned many more to active and useful living who otherwise would have been chronic invalids.

In 1947 the epoch making discovery of streptomycin took place. Streptomycin along with other antibiotics, has immeasurably improved the outlook for cure in tuberculosis, and brought radical changes in the treatment program. It was soon found that collapse procedures were no longer needed to halt the spread of the disease and bring about clinical improvement; this could be better done by the combination of rest and antibiotics, especially streptomycin, INH (Isonicotinic acid hydrazide) and PAS (Para-aminosalicylic

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acid). However, in many patients, especially those with more advanced disease, antibiotics did not give permanent cure. Even with great clinical improvement and marked x-ray clearing, some residual disease usually remained. Relapse often occurred in the absence of other more active treatment, but this could be avoided in most cases by applying collapse to the residual disease. The advantage in this new treatment regime was that much smaller areas of disease needed collapse so that after operation the patient had more vital capacity and less deformity, and there was a higher incidence of permanent arrest.

It is important to realize that in surgical collapse *no part of the diseased lung is removed*. The natural healing power of the tissues is simply assisted by putting the part at rest and by such mechanical effects as compression and approximation of cavity walls.

Why did not surgeons long ago remove the diseased part of the lung rather than collapse it? The answer is not simple. Long before the advent of antibiotics surgeons were attempting this removal, called pulmonary resection. The early attempts at this type of surgery usually ended in failure from operative fatality, post-operative complications, or spread of disease. Slowly over the years, and rapidly in the last ten years, the various obstacles to successful pulmonary resection have been removed.

The first advance was adequate control of respiration during operation. To remove all or part of the lung the pleural space must be opened. This interferes with the normal mechanism of respiration. Normally, inspiration of air is brought about by the lung expanding through the pull of intercostal and diaphragmatic muscle contraction which increases the volume of the pleural cavity. When the pleural space is opened normal lung expansion is destroyed on the operative side. On the good side breathing may also be impaired, depending on the mobility of the mediastinum. If the mediastinum has not been fixed by disease it will shift to the good side on inspiration, thus reducing the expansile pull on this side as well. Under ordinary anesthesia the above train of events takes place. Positive pressure anesthesia, using an intratracheal catheter, was developed in 1928. With this type of anesthesia, respiration can be adequately controlled and proper oxygenation kept up in the presence of an open pleural space. This removed the first obstacle to pulmonary resection.

The next forward step was in surgical technique. Early operations for removal of all, or parts of the lung were performed by mass ligation of the root of the lung, or of the affected lobe. A tourniquet was placed about the root to cut off the blood supply; this was replaced by a large ligature enclosing in one mass all the vascular and bronchial elements along with considerable lung and glandular tissue. The lung, or lobe, was then amputated, the stump reinforced and partly pleuralized by multiple sutures. With this technique the bronchial stump always opened up in about ten days, giving rise to a broncho-pleural fistula and an empyema. The operation was often used in bronchiectasis where the empyema could be controlled by tube drainage usually with good recovery of the patient after a stormy post-operative course.

In tuberculosis this technique almost always was doomed to failure because tuberculous broncho-pleural fistula and empyema, especially before the days of antibiotics, failed to respond to treatment. The patient usually succumbed to toxemia and spread of disease to other areas of the lungs. During World War II the anatomy of the lung received intensive study. Surgeons began removing all, or parts of the lung by meticulous dissection of the root structures, individual ligation of the pulmonary vessels and plastic closure of the bronchus. With this technique good healing of the bronchus usually resulted and empyema did not develop. For the first time pulmonary resection for tuberculosis achieved a fair degree of success. Even so, the operation was formidable as regards operative mortality. In the absence of antibiotics post-operative complications were common, especially spread of the disease to other lung areas.

As in all major operations, blood transfusion has been a great boon to pulmonary resection. The need for adequate blood replacement to combat shock was recognized about the same time as the individual ligation technique was developed. It was some years before adequate supply sources were available for this use. In no other branch of surgery is there commonly such great blood loss as in pulmonary resection. The operative risk has been greatly reduced by the proper use of blood transfusion.

The most recent impetus to resection has come from the use of the new antituberculosis drugs. Reference has already been made to the great benefits from antibiotic therapy in the general treatment of pulmonary tuberculosis. In the first place it has made this type of surgery much safer by greatly reducing post-operative complications. Secondly, it has opened up a whole new field of resection. After prolonged streptomycin therapy, even fairly large areas of disease often resolve to small residual foci. Collapse procedures are now withheld until this reduction in the size of the lesion has taken place. The current trend is to replace limited collapse procedures by limited resection. Resection operations are now in use to remove considerably less than a lobe of lung; such small resections are called segmental, wedge, or lesionectomies.

It is important to repeat that their common use is due to the result of antibiotic therapy — the frequent occurrence of small residual foci of disease that can be fairly safely removed by limited resection. The extent to which resection should replace collapse procedures is a very controversial subject which cannot be taken up in detail. It can be said, however, that those who advocate limited resection believe it will give a higher incidence of arrest of disease with sputum conversion, and a lower incidence of relapse. The advocates of limited collapse point to the greater risk in resection and to the fact that the new procedure has yet to stand the test of time.

Classification and Description of Surgical Measures

Broadly speaking, all surgical measures for treating pulmonary tuberculosis may be grouped under three headings: (1) Collapse, or local rest procedures; (2) operations to remove all or parts of the lung (pulmonary resection); (3) drainage operations. The writer knows of no standard classification but the following lends itself to easy description:

A. *Collapse, or local rest procedures:*
  1. Minor: (a) Pneumothorax
    (b) Pneumoperitoneum
    (c) Phrenic operation
  2. Major: (a) Thoracoplasty
    (b) Extraperiosteal plombage
    (c) Extrapleural plombage

B. *Pulmonary resection:*
  1. Pneumonectomy
  2. Lobectomy
  3. Segmental resection
  4. Wedge resection
  5. Lesionectomy

C. *Drainage operations:*
  1. Monaldi drainage
  2. Cavernostomy

Local Rest Procedures

Generally speaking, procedures to give collapse or local rest are much less commonly used since the advent of safe resection surgery. Certain types are still popular in some parts of the country, and even the most enthusiastic advocates of resection occasionally find use for some form of collapse therapy. All collapse procedures aim at the same result, which is to bring about healing through putting the part at rest and mechanically compressing diseased tissue. Compression places the lung in a better mechanical position for healing as well as resting the part. The walls of cavities are brought together so that they can more readily be bridged by scar tissue. Circulating toxins from diseased areas are greatly reduced, the tubercle bacillus receives a poorer supply of oxygen and so does not thrive. The last two factors are no longer so important since antibiotics now rapidly control toxemia and reduce bacterial growth.

Pneumothorax produces lung collapse by maintaining a cushion of air between the lung and the chest wall. Once the most popular form of collapse, it has now been almost entirely dropped. In the early days it was used even in those with extensive disease but later was confined mainly to the treatment of minimal tuberculosis. In its day it was a good treatment to which many patients owe their present good health. Pneumothorax

Receiving a pneumothorax injection at the clinic

occasionally had serious complications. At best the patient had to keep on taking refills of air for about three years; some became ill with fluid reactions, or empyema, as a complication; a few, even with minimal disease, ended up with a lung that failed to re-expand when treatment was stopped. This latter condition caused permanent reduction in breathing capacity out of all proportion to the extent of original disease and required extensive surgery to correct it with only partial relief. For the above reasons, pneumothorax has become almost obsolete, its place being taken by rest and antibiotic therapy, alone or in combination with limited permanent collapse or limited resection.

Pneumoperitoneum is a relatively recent treatment, being first reported in 1933. Like pneumothorax, it is an air treatment but the air is introduced into the abdominal rather than the pleural cavity. It pushes up the diaphragm causing some collapse and restriction of lung function. The procedure is commonly used in patients with advanced bilateral disease in an attempt to improve general condition preparatory for major collapse or pulmonary resection. Its use has been largely replaced by prolonged antibiotic therapy.

Phrenic operations were at one time a popular form of minor "local rest" treatment. The phrenic nerve was exposed through a small incision just above the clavicle. Crushing, cutting or pulling out the nerve caused varying degrees of temporary or permanent paralysis of the diaphragm with resultant rest to the affected lung. This procedure, too, has been largely abandoned with the use of antibiotics.

Thoracoplasty is the classical form of major collapse treatment. Before the widespread use of antibiotics and pulmonary resection, it was the commonest type of major operation for pulmonary tuberculosis. It consists of removing portions of the ribs thereby softening the chest wall and allowing it to fall in, collapsing the underlying diseased tissue. The periosteum covering the ribs is not removed so that a new bony chest wall develops that maintains the collapse. The operation is done in stages, removing two or three ribs at a time. Some years ago the average thoracoplasty was seven ribs. Using antibiotics, many cavities now close and retract into the apex. A limited five-rib thoracoplasty may then be used to maintain this improvement or the surgeon may choose to do a limited resection. In some cases of unusual clearing of disease and complete cavity closure, no operation at all may be necessary.

Thoracoplasty before the days of antibiotics, was often a life saving procedure. In about 70 per cent of those operated on, it rendered sputum negative and returned the patient to fairly normal living. That it has been partly out-moded does not disparage the procedure but speaks of even better methods of treatment.

The *plombage,* or packing operations are really modifications of thoracoplasty. In them, various types of packing material are used to assist in collapsing diseased lung tissue. Using the usual thoracoplasty incision a localized collapse of the lung is first achieved surgically and then the packing is inserted to further compress the area and maintain it in this position. Packing operations are classified as extrapleural or extraperiosteal, depending on the tissue plane at which the separation is done to allow the lung to collapse, and in which the packing material is inserted.

The extrapleural pack, the older method, has been largely replaced by the extraperiosteal pack which is a safer procedure with less likelihood of the packing material extruding itself into a bronchus. In the extraperiosteal pack the ribs overlying the diseased area are stripped of their periosteum. This allows the lung covered by visceral pleura, parietal pleura, periosteum and intercostal muscles, to fall inwards. A space is thus formed between the collapsed chest wall and the denuded ribs which are left in place. This space is filled in with wax or lucite. The pack may be removed after three months when the new bony chest wall has formed or it may be left in permanently.

Of all the forms of collapse the extraperiosteal pack seems the one that is most likely to continue to be used with any degree of frequency. It gives a more selective, flatter collapse than thoracoplasty, with minimum encroachment on good lung tissue. Poor risk patients tolerate it better than thoracoplasty. It leaves no deformity.

PULMONARY RESECTION

Pulmonary resection has already been discussed in some detail. The removal of diseased organs or tissues is an old and well established surgical concept which has been practised for many years in other diseases and in other parts of the body than the lungs. We have seen how the formidable obstacles to lung resection for tuberculosis have finally been removed one by one. Pulmonary resection is now a relatively safe procedure and to a large extent has replaced collapse therapy.

Depending principally on the amount of lung resected, the operations are classified as follows: Pneumonectomy, or total lung removal; lobectomy, removal of one lobe; segmental resection; removal of a lung segment; wedge resection, excision of a wedge of lung tissue not necessarily confined to a lobe or segment; lesionectomy, excision of a circumscribed area of tuberculosis.

All pulmonary resection is done under intratracheal anesthesia. The usual incision is somewhat similar to that for thoracoplasty, but begins lower and sweeps well into the axilla. After exposing the chest wall a rib, usually the 5th or 6th, is resected for most of its length and the pleural cavity entered through this rib bed. One or two ribs above and below may need to be sectioned at their posterior ends to give additional exposure. If thoracoplasty is present the pleural space is entered through the last normal rib bed and the chest wall incision extended upwards by cutting across the regenerated ribs with bone shears. The ribs are spread apart with retractors, the lung well exposed and freed from adhesions.

In *pneumonectomy* the root structures are dissected out, the vessels individually ligated and severed. After dissection the main bronchus is sectioned and closed in an air-tight manner with over-end interrupted sutures. Covering the bronchial stump with pleura, at one time considered necessary for good healing, is no longer done by many surgeons, with equally good results. Perhaps the stump retracts into the mediastinum and becomes pleuralized in this way.

The technique for *lobectomy* is similar, the vessels and bronchus being those of the lobe in question rather than of the whole lung. Similarly in *segmental resection* the bronchi and vessels to the segment must be identified, dissected out and dealt with. Since there are no fissures between the segments, the affected segment must be separated from the adjoining lung tissue. The plane of separation can be discovered by clamping the segmental bronchus, inflating the lung and dissecting in the line of demarcation between inflated and collapsed lung tissue.

Wedge resections are commonly done with forceps which have a longitudinal tongue and groove as well as transverse serrations. Lung tissue clamped in these forcepts cannot slip. The clamps are applied about the area to be resected so as to form a wedge with the apex towards the deep part of the lung. The wedge is then cut away with a scalpel close to the forceps leaving them applied to the healthy lung tissue. A continuous chromic O suture using an interlocking back stitch (Heidenheim) is run along just under the forceps. This gives an air-tight hemostatic closure.

Lesionectomy can only be used in excising isolated circumscribed lesions. These are meticulously dissected out, using blunt dissection with pledgets of gauze on forceps and clamping and tying all strands of tissue encountered.

Closure is identical in all resections. All air leaks, except small alveolar ones, must be stopped. Two catheters for drainage are usually inserted into the pleural cavity through stab wounds, one posterior and the other in front. The opening into the pleural cavity through the rib bed is repaired with interrupted and continuous sutures. Skeletal muscles, subcutaneous tissue and skin are sutured to complete the closure.

DRAINAGE OPERATIONS

These operations are used to drain cavities in patients who, for one reason or another, cannot be treated by collapse therapy or resection.

In the *Monaldi or closed drainage,* a catheter is inserted by trochar and canulla through the chest wall into the cavity. A closed air-tight drainage is established to which suction is applied by use of a pump. This treatment seldom closes a cavity, but it may reduce its size and relieve symptoms, thereby getting the patient in shape for some more major procedure.

Cavernostomy, or open cavity drainage, is a definite treatment that often brings about cure without the help of further surgery. In this procedure, the cavity is actually unroofed externally, packed and allowed to contract in size for several months, after which a plastic closure should result in complete obliteration. This operation can be applied with safety and success to many patients where the source of positive sputum is confined to a cavity and who are poor risks for resection surgery.

CONCLUSIONS

No very definite conclusions can be expected on so changing a subject as the surgery of pulmonary tuberculosis. It is safe to say that the final chapter has not been written on treatment in general. New, more potent drugs may appear which could reduce the present widespread use of surgery. At the present time pneumothorax, pneumoperitoneum and phrenic operations have been largely abandoned in many quarters. Thoracoplasty is also becoming a rare operation, except in helping to reduce the size of the pleural cavity after some resections. Almost all surgeons agree on such absolute indications for resection as thoracoplasty or pneumothorax failure; extensive lung involvement; large thick-walled cavities; hilar or basal cavities; the sequelae of tuberculous tracheobronchitis and tuberculomata. There is less agreement on the treatment of non-solid lesions and residual foci after prolonged antibiotic therapy. In this field some authorities prefer limited resection, others extraperiosteal pack and still others think no surgery is indicated. The aim of treatment in these less extensive lesions is to avoid relapse.

Before the days of antibiotics, about one-third of all admissions to sanatorium were re-admissions; in other words, relapse in tuberculosis was all too frequent. Present day smaller resections are done mainly in the hope of avoiding such relapse. Already a sizeable body of clinical material is accumulating which, in the next ten years, may tell us whether or not these smaller resections are necessary to prevent relapse. In the meantime it seems certain that the tremendous advances in the surgical technique of pulmonary resection will continue to be put to good use in the removal of tuberculous lung tissue damaged beyond repair. Some day, if early diagnosis becomes so universal as to eliminate advanced tuberculosis and newer, more potent antibiotic drugs are developed, the need for surgery in pulmonary tuberculosis may become rare.

* * *

How does wiggling the toes "reawaken" feet that have "fallen asleep"? Radioactive isotopes have given the answer. Studying ways to control faulty blood circulation, particularly in bed-ridden persons, doctors injected a solution containing radioactive salts into the veins of patients' feet. With a Geiger counter they traced the movement of the salts in the blood, through the feet and legs. They found that a recumbent person doubles the speed of blood flow in his feet if he wiggles his toes back and forth for two minutes. This restores oxygen to the extremities, and ends the tingling sensation of "sleeping feet." It eliminates the occasional danger of blood clots in bed patients.

—*SIS: Medical Features*

* * *

In 1954, Canada experienced the most favorable health conditions on record, according to the statisticians of the Metropolitan Life Insurance Company, who estimate the death rate for the year at 8.2 per 1,000 population on the basis of experience during the first 10 months. This marks the third successive year for which the death rate was under 9.0 per 1,000.

Tuberculose Pulmonaire et Chirurgie Thoracique

B. Guy Bégin, M.D., F.C.C.P.

Pour pouvoir évaluer les possibilités des traitements chirurgicaux en tuberculose pulmonaire, il ne faut pas oublier qu'il s'agit du traitement d'une maladie chronique qui évolue en phases. Pour bien traiter ces malades, il est nécessaire de connaitre à fond les concepts actuels du traitement médical à offrir sous forme de repos tant physique que moral. Parfois ce traitement devrait être prolongé très longtemps et dans de nombreux cas la maladie ne guérissait jamais et même le taux de mortalité était alarmant.

Il y a un peu plus qu'un demi-siècle, Forlanini et autres physiologues eurent l'idée de tenter d'améliorer le taux de guérison et de raccourcir la période de cure en préconisant le pneumothorax artificiel intra-pleural. Plusieurs années plus tard, on eut l'idée d'immobiliser un des diaphragmes en alcoolisant, écrasant (phrénemphraxie) ou sectionnant (phrénicectomie) son nerf moteur, le phrénique. Durant la troisième décade de ce siècle, on eut l'idée d'injecter de l'air dans l'abdomen (pneumopéritoine) de façon à soulever les diaphragmes et à promouvoir la cicatrisation de lésions tuberculeuses surtout localisées dans la base des poumons ou pour contrôler des hémoptisies graves. En associant au pneumopéritoine la paralysie d'un des nerfs phréniques, on a réalisé une ascension du diaphragme beaucoup plus marquée du côté où le poumon était plus gravement atteint.

Pneumonolyse intra-pleurale

D'après certains auteurs, à l'amorce d'un pneumothorax, il n'y a pas d'adhérence ou de zône d'accollement entre les deux feuillets pleuraux que dans seulement 15% des cas. A longue échéance, ce traitement de collapsothérapie ne donne pas les résultats attendus surtout si ces adhérences nuisent à un affaissement anatomique satisfaisant du parenchyme pulmonaire. Depuis 1913, nous devons à un chirurgien suédois, Hans Jacobeus, la technique de *la section par électrocoagulation des adhérences intra-pleurales* (pneumonolyse intra-pleurale à ciel fermé).

Cette opération, faite sous anesthésie locale, consiste à placer dans deux espaces intercostaux des canules métalliques; par la première, nous introduisons une petite lumière et un système d'optique, comme au cours d'une cystoscopie ou une bronchoscopie; par l'autre canule, nous glissons l'électrocoagulation. De cette façon, nous pouvons explorer (pleuroscopie) la cavité pleurale en nous assurant qu'il n'y a pas de vaisseaux sanguins importants, ni tubercule tuberculeux, ni parenchyme pulmonaire là où nous sectionnerons l'adhérence. Souvent nous rencontrons des zones de symphise intra-pleural non-sectionnables, ce sont les pneumothorax les plus dangereux.

Pneumothorax extra-pleural

Parmi les autres formes de collapsothérapie chirurgicale mises au point durant les trois dernières dizaines d'années, citons le pneumothorax extrapleural.

Pour l'amorce, il faut créer chirurgicalement un espace artificiel en dehors du feuillet pleural pariétal, donc en dehors de la cavité pleurale et en dedans du plan formé par le périoste qui tapisse la surface interne des côtes et l'aponéphrose contigue des muscles intercostaux. Habituellement, nous réséquons un segment de côte pour pouvoir libérer ainsi tout le sommet d'un poumon recouvert de ses feuillets pleuraux symphisés. On entretient cette poche aérique par des insufflations d'air en pressions supérieures à l'air atmosphérique périodiquement. Pour obvier à l'inconvénient de ces insufflations d'air, on a réussi dans certains cas à remplir cette poche avec de l'huile stérile, de la paraffine ou des billes plastiques (lucite).

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Cependant ces corps étrangers ont causé de nombreuses complications par leur migration le long des parois thoraciques ou dans le médiastin; quand elles n'ont pas déterminé une perforation des plèvres et leur migration jusque dans l'arbre bronchique. Pour obvier à ces inconvénients, surtout chez les patients jeunes, où il faudrait pratiquer une résection costale (thoracoplastie) trop étendue, depuis moins de dix ans, on a eu l'idée de créer un espace en dehors du plan du périoste et des muscles intercostaux et du plan costal lui-même, qui reste formé par les côtes dépériostées. Cette pneumonolyse extra-périostée avec comblement de l'espace créé par des billes plastiques de 1" ou 1¼" de diamètre, placées dans une toile de polythène nous est d'un grand secours dans des cas bien choisis.

THORACOPLASTIE

La thoracoplastie paravertébrale extra-pleurale est le plus ancien traitement actif de la tuberculose pulmonaire. Simon (1869) et Estlander (1879) l'avait d'abord préconisée pour le traitement de l'empyème chronique. Un français de Cérenville, en 1885, eut l'idée de faire faire une thoracoplastie pour collaber une partie d'un poumon malade. Parmi les pionniers qui ont le plus contribué à l'amélioration des techniques chirurgicales pour en arriver à l'opération que l'on fait aujourd'hui et qui ne présente qu'un risque de complication et de mortalité minime, mentionnons Spengher, Brauer, Freidrick, Wilms, Sauerbruch, Gourdet, Rolland et Maurer, Bernon et Fruchaud, Tuffier, Churchill, Alexander, Archibald, Ochsner, Heblom, Semb et Overholt. La première thoracoplastie sur le nouveau continent fut faite à Philadelphie en 1911, et au Canada, en 1913, au Royal Victoria Hospital de Montréal, par le Dr Archibald.

L'opération standard consiste à inciser la peau et les tissus mous sous-jacents en passant par la région interscapulo-vertébrale droit ou gauche, à soulever partiellement l'omoplate, à réséquer un nombre approprié et sur une longueur dictée par l'étendue du parenchyme pulmonaire à collaber les côtes supérieures, à partir de leur articulation avec l'apophyse transverse de la vertèbre correspondante, en laissant en place le périoste costal et les structures intercostales. Cette voûte rigide enlevée permettra aux tissus pleuro-pulmonaires sous-jacents de se retracter en cicatrisant la ou les cavités tuberculeuses.

Il faut donc que les lésions parenchymateuses tendent à la cicatrisation et qu'il reste assez de tissus élastiques sains pour atteindre cette cicatrisation spontanée. Si la maladie remonte à plus de quatre ans et que les tissus sont trop fibreux, on s'expose à constater des échecs. Dans certains cas, il faut recourir à des techniques modifiées ou bien à la résection d'une partie ou de tout un poumon.

RESECTION PULMONAIRE

L'idée de faire une résection pulmonaire remonte à la fin du dernier siècle, mais ce n'est que depuis 25 ans que cette opération présente un taux de mortalité considérablement à la baisse. Le premier cas de survie fut rapporté par le Dr E. Graham, de St. Louis, Missouri. Seulement depuis 1943, la publication de Churchill et Klapstock, les techniques se sont considérablement améliorées et les résultats de même. Parmi les principaux chirurgiens pionniers, mentionnons Overholt et Wilson (1945), Sweet (1946) et Bailey (1949).

La résection pulmonaire peut être totale: pneumonectomie (ou pneumectomie), partielle unilatérale ou bilatérale; lobectomie. Dans certains cas, l'on peut ne réséquer qu'un segment de lobe et parfois, si la lésion est petite et bien localisée en surface du poumon, on pratique une résection très localisée (en coin) "wedge."

D'après ce tableau forcément très résumé, nous pouvons conclure que le traitement de la tuberculose pulmonaire n'est pas si simple que certains semblent le laisser croire. Il faut considérer plusieurs facteurs: l'âge du malade, le sexe, l'occupation, l'étendue et l'âge de la maladie, sa stabilité, les traitements antérieurs, l'évaluation des fonctions cardiaques et pulmonaires, la coexistence d'autres maladies non-tuberculeuses comme le diabète, etc. etc. Contrairement à ce que l'on avait prévu lors de la découverte de la streptomycin et d'autres antibiotiques, les indications chirurgicales ont augmenté en tuberculose. Nous intervenons chi-

rurgicalement chez des malades très avancés après un traitement préparatoire plus ou moins long par la cure et les antibiotiques auxquels autrefois nous n'avions pratiquement rien à offrir. Plusieurs directeurs de sanatorium ont révélé qu'aujourd'hui plus de 70% de leurs tuberculeux subissent un traitement chirurgical à un certain moment de l'évolution de leur maladie. Le dépistage précoce nous permet de traiter des cas moins avancés et par des traitements moins longs et moins compliqués.

Le taux de mortalité a beaucoup diminué, mais il existe encore malheureusement trop de tuberculeux et l'antibiotique idéal n'a pas encore été découvert. La chirurgie thoracique a considérablement amélioré ses techniques et elle est encore aujourd'hui une des armes les plus puissantes contre la tuberculose pulmonaire et pleurale pour raccourcir le cours de la maladie et rendre un grand nombre de tuberculeux définitivement arrêtés, grâce au travail d'équipe dû à la coordination du travail des infirmières, des anesthésistes, des médecins et des chirurgiens.

The Prevention of Tuberculosis in Nurses

M. J. Harlow and C. B. Stewart, M.D.

THOSE WHO CARE FOR THE SICK are subject to certain occupational hazards, not the least of which is the exposure to infectious diseases. Many published reports have emphasized the higher incidence of tuberculosis in nurses, medical students and other professional or technical personnel who care for the sick. Although this fact is well established, one occasionally hears the opinion expressed that there is little or no risk of infection to those who care for tuberculous patients.

Sometimes this statement is made by a sanatorium administrator, who may perhaps allow his judgment to be influenced by the difficulties of recruiting a nursing staff. On the other hand, the administrator of a general hospital may suggest that there is no tuberculosis risk to the members of his staff because known cases of tuberculosis are not admitted. Neither viewpoint is supported by available statistical data. The incidence of tuberculosis is often high among the staff members both of general and tuberculosis hospitals.

It may therefore be of some interest to review the experience in certain Halifax hospitals, both as an illustration of the extent of the problem and certain methods of dealing with it. Since 1947 a BCG vaccination program has been in operation for the four schools of nursing in Halifax and for the medical students of Dalhousie University. At the start of this program the health records of the four hospitals and of the student health service of the University were reviewed for the preceding 10 years, 1937-47. These health records had been well kept and included reports on periodic chest x-rays or fluoroscopic examinations, as well as annual physical examinations and illness records. In only a few instances the illness reports were not absolutely clear as to whether a student had suffered from pulmonary tuberculosis. A small number of students had discontinued training before a definite diagnosis had been made. Nevertheless, most of the diagnoses were clearly established and the following data are therefore reasonably accurate.

Table I shows the incidence of proven tuberculosis among nursing students, medical students and, for comparison, female students of the faculty of arts and science of Dalhousie University from 1937 to 47.

983 nurses had entered the four schools of nursing during the ten-

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Dr. Stewart practises in Halifax, N.S., while Miss Harlow was in the Dalhousie BCG clinic during the major part of this study, being a public health nursing student at Dalhousie University.

TABLE I

Incidence of Tuberculosis in Students of Nursing[1], Medicine and Arts and Science[2], 1937 to 1947.

Student Group	No. Admitted to Training	Proven Tuberculosis			Person-years in Training	Average T.B. Attack Rate per 1,000 per Annum
		Reactivation	New	Total		
Nurses, Hospital A	482	6	27	33	935.7	35.3
" " B	333	0	11	11	674.9	16.3
" " C	111	0	2	2	173.1	11.5
" " D	57	0	1	1	42.4	23.5
Total Student Nurses	983	6	41	47	1,826.1	25.7
Arts and Science (Female)	442	1	0	1	647.5	1.5
Medical	491	2	8	10	1,496.2	6.7

[1] In four Halifax Schools of Nursing.
[2] In Dalhousie University.

year period and had received a total of 1826.1 person-years of training by September, 1947, when BCG was first given. This is an average of only about two years per person. It is less than the full training period of 3 years not only because of withdrawals or failures, but because of the fact that the large classes of 1946 had completed only one year of training when the BCG program began.

There were 47 proven cases of tuberculosis during this period. Six were reactivations of disease which were known to exist on entry into training, but 41 were new cases. The rate was 25.7 cases of tuberculosis per 1,000 person-years of follow-up, including both reactivations and new infections; or a rate of 22.5 *new* cases of tuberculosis per 1,000. Expressed in percentages this means that 2.6 per cent of each class developed clinical tuberculosis each year, or almost 8 per cent in the three-year training period. At the same time 442 female students experienced only one case of tuberculosis. This was a reactivation. The total rate of tuberculosis in this group was 1.5 per 1,000 person-years. The incidence of tuberculosis was therefore 16 times as great in nurses as it was in female university students from the same areas of Nova Scotia and of the same age range.

Several points might be emphasized. None of these nursing students prior to 1947 had training in a tuberculosis hospital. This defect in training was probably not good from an educational standpoint, but it incidentally provides clearcut proof that there is great risk of tuberculosis in the *general hospital*. All four hospitals also excluded all known cases of pulmonary tuberculosis or other infectious forms of the disease. Only orthopedic cases were accepted in the one pediatric hospital. The total burden of risk therefore arose from the hidden or undiagnosed cases of tuberculosis.

Secondly, none of the hospital or nursing school administrators were aware of any unusual tuberculosis problem. The BCG vaccination program was proposed and instituted because of "outside" influence. It is suggested that a careful review of staff health records of many hospitals and the calculation of tuberculous rates, would often be equally revealing. Another Nova Scotia hospital with "no tuberculosis problem" was recently investigated and found to have had an average annual tuberculosis rate over the last ten years of 17 per 1,000.

Two programs are suggested for the control of this problem.

(a) Tuberculosis case finding in all patients admitted to general hospitals.

(b) Protection of nursing personnel and others who have close contact with patients.

Many general hospitals now require an admission photofluorographic plate or "miniature x-ray" on all patients. Most of the larger hospitals in Nova Scotia have received special equipment from the Department of Public Health and have begun this program within the past two years. In some instances, facilities are also made available for the patients of practising physicians of the area on an outpatient basis. The admission x-ray program has proven to be an extremely fruitful case-finding mechanism. Far more cases of tuberculosis are uncovered by this means than by mass radiography of the "normal" population.

One point, however, requires emphasis. In order to protect the staff of the hospital, these must be *admission* x-rays and not *discharge* x-rays. There are a number of problems involved in obtaining chest x-rays of all patients on admission. It is extremely easy for all concerned to postpone this apparently unnecessary procedure until the seriously ill patient is more comfortable, or even to leave it until the day of discharge. Of course, if it is finally done some time before the patient leaves, it will result in the discovery of all cases of tuberculosis. Its value as a case-finding procedure is not lessened. However, the discovery will be too late to protect the nursing staff and others who have been exposed to infection while the patient was in hospital. Delay also increases the difficulty of investigating the case thoroughly. A complete investigation of a suspicious pulmonary lesion can more readily be made while the patient is in hospital than after discharge.

For these two reasons, the full support of all nurses should be directed toward the improvement and successful operation of such an admission x-ray program. Nurses are in a key position to make this program a success. In some intances a nurse may be directly responsible for getting the patient x-rayed. In other instances the nursing supervisor must check the records and if, for any reason, the admission film has been neglected or delayed it is her responsibility to have it done as soon as conditions permit.

Protection of the student nurse is largely dependent upon two features: (a) Adequate training in the control and treatment of communicable diseases, including tuberculosis, (b) Protection by specific immunization with BCG vaccine.

It should not be necessary to emphasize the importance of training nurses in communicable disease techniques. Modern nursing schools are supposed to make provision for such training but there are still some gaps to be filled. The day of the separate communicable disease hospital is almost at an end. General hospitals should be prepared to care for all types of illness, including infectious diseases. Trained personnel are required.

Every nurse learns in the operating room the fundamental techniques for preventing the spread of infection. It requires merely the adaptation of these techniques to the care of the medical case. Many hospital authorities still refuse to admit infectious cases, with the statement that the staff is not qualified to deal with them. The nursing profession should not permit its reputation to be besmirched by such an accusation of ignorance. There are few practical aspects of nursing in which the average student gets better training than in the prevention of the spread of infection. Why has the idea been allowed to grow that communicable disease technique is a separate branch of knowledge?

The use of BCG to protect persons exposed to specially high risk is strongly recommended. There are very few modern immunization procedures that are easier to carry out and that produce less reaction. For many years the value of BCG vaccination was argued, without any clear-cut evidence to settle the question. However, during recent years, there have been several very well controlled studies which have demonstrated conclusively that BCG

TABLE II

Incidence of Tuberculosis in Nurses and Medical Students Before and After the Introduction of BCG Vaccination

	Nurses		Medicals	
	Before BCG	After BCG	Before BCG	After BCG
Persons	983	1,183	491	382
Person-years	1,826.1	1,883.3	1,496.2	820.1
Reactivations	6	2	2	2
New Cases	41	7	8	1
Total T.B.	47	9	10	3
T.B. rates per 1,000 Person-years				
New Cases	22.5	3.7	5.3	1.2
All cases	25.7	4.7	6.7	3.6

vaccine will produce approximately 80 per cent reduction in the incidence of tuberculosis. Anyone who has in the past received teaching to the contrary should read the reports of the well-controlled studies of Aronson[1,2] and Ferguson[3]. There is, of course, no complete immunity or protection against this disease. However, a reduction of from 5 to 1 is sufficient to warrant a recommendation that the vaccine be employed for those who are unavoidably subjected to a high risk of infection.

Table II shows the tuberculosis experience in the Halifax Nursing Schools and Dalhousie Medical School from 1947 to 1952 inclusive, as compared with the pre-vaccination period. This table shows that 1,183 nurses were in training during this six-year period—a larger number than in the preceding 10 years. Nine cases of tuberculosis were discovered — two reactivations and 7 new cases. This is a rate of 3.7 new cases of tuberculosis per 1,000 person-years as compared with 22.5 in the period 1937-47.

The question may be raised as to whether all of this reduction was accomplished by the BCG vaccination program. No such claim is made. There had been a reduction in tuberculosis morbidity and mortality in Nova Scotia during this period, and it is probable that some reduction occurred in the number of "hidden cases" of tuberculosis admitted to general hospitals. In addition, the routine chest x-ray program for all admissions was started in some of the hospitals in 1951 and in others in 1952, thus reducing the risk of infection from undiagnosed cases.

On the other hand, practically all of the student nurses after 1947 had affiliate training in a tuberculosis hospital. Some factors therefore would have increased the risk of contact while others probably resulfed in a decreased risk. It is a moot point which was the greater. In any event the value of BCG has been proven in well controlled studies, as noted above, and this is not an attempt to justify its value statistically. Suffice it to say that the reduction of tuberculosis morbidity occured suddenly after BCG was begun, and no such reduction occurred at that time in other Nova Scotia hospitals.

One final point should be emphasized.

We are in serious danger today of *epidemics* of tuberculosis. This is a completely new problem, and one that is very little appreciated either by the nursing or medical professions. The reason is that the present generation of students is the first to have lived their whole lives in an environment almost free of tuberculosis infection. Surveys of tuberculin status in the 1920's showed that 80 to 90 per cent of adults had a positive tuberculin reaction, indicating a previous infection. Incidentally, these figures are still quoted in some textbooks, although long out-dated. By the 1930's this proportion had fallen considerably. The Dalhousie medical classes of 1935 and 1936 had 64 per cent positive to tuberculin. In 1947 the proportion was 25 per cent, and today it is only 13 per cent. An undiagnosed case of tuberculosis in a general hospital 25 years ago was not a very great hazard, since 80 to 90 per cent of the nurses and doctors had a naturally acquired immunity from an earlier infection. Today the reverse is true with 80 to 90 per cent susceptible. One outbreak of tuberculosis in a Nova Scotia hospital involved 8 nursing students and it was by no means the only such episode of its type in recent years. This should serve as ample warning that BCG vaccination is necessary.

The methods of BCG vaccination will not be discussed here. It is the purpose of the authors simply to emphasize to the nursing profession the importance of the admission x-ray program, the training of nurses in the care of patients with communicable diseases, including tuberculosis, and the value of a BCG vaccination program for nurses and other hospital personnel who care for the sick. The cooperation of nurses is required in the initiation and effective operation of all three of these programs.

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Respiratory Cancer Mortality

While the number of deaths from cancer of the respiratory system has been increasing rapidly in the past quarter of a century, approximately half this increase reflects merely the growth and aging of the population, and a considerable part of the remainder represents improved diagnosis and more complete case findings. Nevertheless, there does appear to be an appreciable real rise in the incidence of respiratory cancer, but data are not available to show how much of it can reasonably be attributed to the effect of specific factors.

Both sexes have experienced a rise in the death rate from cancer of the respiratory system, but the increase has been very much more rapid among males than among females. Even among males, however, respiratory cancer now accounts for only one fifth of the mortality from all cancers.

In each sex, the rise in respiratory cancer mortality has been more rapid in later life than at the younger ages. It is noteworthy that in 1950 the respiratory cancer death rate among white males reached its maximum at ages 65-74 and then declined somewhat, whereas among white females the death rate continued to rise to the oldest ages.

In large measure, the rise in the reported mortality from cancer of the respiratory system has been due to improved diagnostic techniques and more complete case findings. Physicians with good training in diagnosis have greatly increased in number, as have specialists in radiology and bronchoscopy. With more abundant facilities available for diagnosis of respiratory cancer and the more frequent use of radical surgery, many cases of the disease have been uncovered which would have been missed in earlier years. —*Statistical Bulletin*

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Nursing in Tuberculosis Surgery

EILEEN HASSETT

MR. YORKE IS A HANDSOME, well-built man of 39. He was an English teacher at a local high school. He was well liked by his pupils. He is married and has one little girl living.

When he was 21, Mr. Yorke suffered a heavy chest cold with sharp pains over his left anterior chest on deep inspiration. This was diagnosed as pleurisy and he spent a month at home on bed rest. He was given no medications or treatment.

Four years later, Mr. Yorke had a chest x-ray taken during a mass survey at the school. He was told that he had had tuberculosis but that it had healed. He also had a sputum test that was negative. There are a number of conditions that closely simulate tuberculosis on x-ray and a careful examination of the sputum is one of the most valuable aids in helping to differentiate these different types of lesions. It may have to be examined a dozen times before tubercle bacilli are demonstrated.

Yearly after that, Mr. Yorke had routine chest x-rays. All showed the initial lesion as being "apparently cured." His sputum tests continued negative.

When his younger daughter fell ill and was taken to hospital, her condition was diagnosed as tubercular meningitis. In spite of streptomycin therapy and the best of care, she died.

Soon after, Mr. Yorke had an x-ray that showed a small cavity in the upper lobe of the right lung. He also had a stomach wash that returned positive results.

In children or adults who have only a small amount of sputum, tubercle bacilli can often be demonstrated from stomach washings when they cannot be found by any other means. This examination is done before breakfast when the stomach is empty. The patient is given a glass of water, a stomach tube is passed and fluid obtained. The sediment is examined and cultured.

Immediately his disease was diagnosed, Mr. Yorke was advised to go to hospital, which he agreed to do. His wife and child were given the Mantoux test. A dilution of 1/20 mg. of old tuberculin is injected into the superficial layer of the skin of the inner surface of the forearm. Old tuberculin is a protein derivative of the tubercle bacillus. It contains no germs. This test is read 48 hours after administration. A positive reaction is one that shows edema and redness of varying degrees. A positive tuberculin test diagnoses tuberculous infection but does not tell whether or not the person has definite tuberculous disease. A positive reactor should always be x-rayed as Mrs. Yorke and Audrey were. Fortunately their x-rays were negative.

Mr. Yorke adjusted easily to hospital routine. With the help of the public health nurse his financial arrangements had all been taken care of before hospitalization and, but for the sorrow over his second little girl, he was, on admission to hospital, in an excellent frame of mind for the cure. Peace of mind is a prerequisite for complete mental and physical rest.

Soon after admission Mr. Yorke was told that it was thought advisable to give him a right pneumothorax to more completely relax his right lung.

This article was written as a nursing care study while the author was a student at Royal Columbian Hospital, New Westminster, B.C.

A lesion in the lung may be compared to an ulcer; rest is necessary for healing. If a cavity is present, the elastic tissue around it expands and contracts with breathing, preventing the sides from approximating as is necessary for healing. Pneumothorax restricts movements of the lung and collapses the cavity.

Mr. Yorke saw the logic of this and agreed to the procedure, which is considered a medical one, and requires no physical preparation. The nurse cleansed and painted the skin at the site of injection and recorded on his clinical sheet the amount of air injected. She watched him carefully during the procedure for signs of pleural shock. Sometimes when the needle touches the pleura the patient goes into shock and may vomit, with weak pulse, skin cold and clammy. If that does occur warmth is applied and a stimulant given. Mr. Yorke was fine.

On his return to the ward, Mr. Yorke was put back to bed. His pulse and respirations were checked frequently and he was given codeine orally. He was watched for signs of a spontaneous pneumothorax — sudden sharp pain in the side, cyanosis, dyspnea, rapid pulse and shock. A spontaneous pneumothorax is due to leakage of air from the lung through the visceral pleura into the pleural space. The increased pressure suddenly collapses the lung—not gradually as in an artificial pneumothorax. In such a case the doctor would aspirate the air immediately until the break healed. Mr. Yorke showed no signs of complications. He continued to have pneumos weekly and remained on bed rest. Within eight weeks his sputum test was positive.

At this time he was fluoroscoped. In this procedure the chest is visualized by means of the x-ray on a fluoroscopic screen in a dark room. Unfortunately, because of an adhesion between the two layers of the pleura, it was seen that his right lung had not been able to completely collapse and was holding the cavity open.

A stereoscopic x-ray was also taken. This is done by taking two films from slightly different angles and placing them in a special viewbox. The chest is viewed in depth, aiding the visualization of certain types of lesions.

In order to remove the adhesions and allow complete collapse of the lung, a pneumolysis had to be performed. This operation consists of making a small incision between the ribs and inserting a thoracoscope, through which the adhesions can actually be seen. They are cut by a high tension cautery usually inserted through another small incision.

Following this operation, Mr. Yorke was placed on his sound side to prevent recurrence of adhesions. He was kept sedated with codeine to prevent coughing for the first 24 hours, was watched carefully for signs of bleeding, and was kept in bed for a week. He made a good recovery, and subsequent fluoroscopes showed a successful pneumothorax, right side.

Because of increased markings in the x-ray plates of his left lung, it was thought advisable to attempt a left pneumothorax but it was unsuccessful. Possibly due to the old pleurisy, the pleura was completely adherent.

Exercise was gradually increased from bed rest to up once a day, then bathroom privileges. He gained weight and felt very well. His sputum tests now were negative as was the stomach culture. He was discharged as "arrested," to have right pneumothorax weekly and be x-rayed every three months. He was not to work and was to rest as much as possible.

After a year on this routine, Mr. Yorke commenced teaching again, with his doctor's permission, and continued for the whole school year, resting whenever possible and carrying on with the pneumothorax. He felt fine, with only occasional dyspnea and some sputum. Unfortunately, of three stomach washes taken in the spring one returned with positive culture showing that there was still some tuberculous activity.

When school closed, Mr. Yorke was readmitted to the surgical floor. It had already been explained that if the pneumothorax did not rest the lung sufficiently for the cavity to heal, it would be advisable to have surgery. A planograph taken soon after admission showed that the cavity on the right side had not closed. A planograph consists of taking films at different depths through the chest — a deep x-ray.

A broncoscopy was done. In this procedure the patient is given a local anesthetic and a bronchoscope is inserted into the major bronchi. By means of lights and lenses a view may be obtained of these areas. The bronchoscope showed small amounts of sputum outside the main right bronchus.

Mr. Yorke maintained an intelligent attitude towards his condition and was very cooperative at all times. When he was told that a lobectomy was advisable, he was a little taken aback and asked for a few days to make up his mind. After consideration Mr. Yorke agreed to the operation.

First, a bronchospirometry was done. In this procedure a catheter is passed into each main bronchus separately and the vital capacity of each lung is recorded. The vital capacity of the lungs is the total tidal air (normal intake and output) plus the complemental air (forced intake) and the supplemental air (forced output). The normal is 3,500 cc. for both lungs. Mr. Yorke recorded 3,200 cc. The purpose of this was to ensure that he had sufficient good lung tissue for normal breathing after removal of a lobe.

Preparations for the operation were commenced. His basic knowledge of the procedure was enlarged upon. With a diet rich in carbohydrates and proteins, he was given additional fruit juices. A pound bag of candy was left at his bedside for him to eat before the operation. The last day proteins were reduced. He was given vitamins and iron and a course of PAS and streptomycin was commenced.

Mr. Yorke was placed on exercise to stimulate circulation. Two days preoperatively sterile skin preparation was commenced. He had a cleansing enema the night before surgery and a sedative at bedtime. Pre-operative medication of morphine and hyoscine was given half an hour before surgery.

At the close of the operation a catheter was inserted in the 8th interspace in the posterior axillary line with the end of the catheter up in the apex. The patient stood the operation well and, while the blood loss was considerable, it was adequately replaced. His condition was good on return to the ward.

After the operation Mr. Yorke was taken to the recovery room where he was given 55 cc. coramine and oxygen by mask until conscious. His blood pressure was 98/70, pulse 80, regular, color fair. His pulse and blood pressure were checked every 15 minutes until he was conscious. He was then placed in an oxygen tent and given morphine gr. 1/6 for restlessness. The drainage catheter was connected immediately to a closed drainage bottle. The purpose of the closed drainage was to suction the fluid and air out of the space where the lobe was removed so that the rest of the lung would expand and take up the space.

Set-up in Recovery Room

For the first few days Mr. Yorke was watched carefully for signs of dyspnea, cyanosis or a rapid pulse that would denote a bronchopleural fistula due to leakage of air through the end of the severed bronchus. Fortunately, his pulse, respirations and color remained good. The drainage returns that were examined and measured twice a day changed gradually from sanguineous to clear. The drain was removed in five days. The dressing was changed under aseptic technique and showed no signs of infection. The second week he was given codeine gr. 1 as a cough depressant. His position was changed frequently with special skin care.

Making a good recovery, by the third week Mr. Yorke was ready for exercise once more. At this time he was informed by his surgeon that he would require one more operation, a first-stage thoracoplasty, to prevent over-dilatation of the remaining two lobes of his right lung. The ribs are removed sub-periostially and so will grow in again in the desired shape, regulated by weights placed on the patient post-operatively.

Preparations for the thoracoplasty were similar to those for the lobectomy. Careful preparation of the skin in chest surgery is necessary because of the deep-seated sudorific glands in the skin of the back. Chest surgery also entails bone surgery, and bones, because of the increased blood supply to the periosteum, are easily infected.

Ribs 4, 3 and 2 were resected in that order. One soft rubber drain was inserted and the muscles of the chest wall were closed in two layers.

Immediate post-operative care was as for the lobectomy. He was encouraged to cough every hour for the first 24 hours, the nurse applying pressure over the "weak spot" on the chest during the cough. Coughing up secretions squeezed out of the collapsed area every few hours served to prevent tuberculous pneumonia.

Mr. Yorke was watched carefully for signs of paradoxial respirations—shortness of breath, rapid, feeble pulse—where the operative and unoperative sides move in opposite directions. If this should happen tight strappings and weights are applied to the operative side. He returned from the operating room with weights on that were not removed for the first five days and then only for meals. He was encouraged to keep his head and shoulders straight to prevent deformity. Passive exercise of his arms was commenced the first day and his legs the second day. His diet was increased as tolerated. The first two dressings were changed under sterile technique. Active physiotherapy exercises to both arms, shoulders and neck were started and he cooperated readily.

Feeling fine, his appetite good, Mr. Yorke soon put on weight. X-rays, stomach washes, and sputum tests were negative. He proved a cooperative, intelligent, almost exemplary patient from the first, and it is to be hoped that he has at last become successful in his fight against tuberculosis.

Psychological Problems of Tuberculous Patients

PATRICIA NEVILLE

IF YOU HAVE BEEN SICK for a month or more, you will remember how bored you were, how tired of the same old room and bed, how discouraged you felt about ever becoming strong again. The patients with tuberculosis face many months of these feelings, and also worry that they may be a burden and danger to their families. It is easy for them to give up fighting and to think "What's the use? I'm done for." When this happens, they lose their appetites, lose weight, grow careless about observing the rules of rest, and tuberculosis gets a firmer foot-hold.

Withdrawal from a life of activity into one of enforced idleness of uncertain duration requires a major psychological adjustment. There are at least three emotional hurdles to be cleared: accepting the diagnosis, adjusting to a handicap, and facing the loneliness and boredom of a prolonged illness.

At this crisis in their lives, time taken by the nurse to deal in a kind, understanding, and sympathetic manner with the patients' personal and family problems will pay handsome dividends. She knows that the solution to many problems of the tuberculous patient goes deeper than medicine or surgery. She may dispel many apprehensions and sustain the confidence al-

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Miss Neville, who wrote this paper when a senior student at St. Joseph's Hospital, Peterborough, Ont., knows from personal experience the psychological problems that beset a patient with tuberculosis.

ready established with her patients, give reassurance regarding the home, and develop in them the courage and wisdom needed to face the prolonged illness and make the difficult task of rehabilitation easier.

Education of the patients begins with their admission to the ward. The greatest part of the teaching falls to those who are responsible for their daily care — the nurses. The problems that arise in hospital routine are not confined to the area of personal hygiene. People who are admitted for a long-term illness are usually on the defensive from the moment of admission. This is particularly true in tuberculosis. The fact that they are being cut off from normal living and must accept hospitalization for a period of months or years has a tendency to exaggerate every ordinary defense mechanism of the average human being. Gaining the cooperation and confidence of a newly admitted patient depends to a considerable degree on the ability of the nurses to recognize and understand the deep emotional disturbances that these patients bring with them to the hospital. Fear and insecurity are frequently encountered and generally result from lack of knowledge of the effects of the disease, its course, recommended treatment and the hospital routine.

The patient usually accepts the doctor's explanations but after thinking and worrying about them for a while, he will ask questions of the nurse in whom he has confidence. The more she knows about tuberculosis the better able she is to help patients find release from tension during the early days of their hospitalization. Explanations should be considerate and truthful if continued cooperation is to be effected.

The problems of the tuberculous patient are many and he cannot rest mentally unless he is able to receive help in solving them. The progress of his disease depends not only upon the amount of rest his body receives, but also on the level of tranquillity in his mind. Economic insecurity, fears for the future, and the feelings of personal inadequacy intensify any existing emotional problems of anxiety over illness. Another discouraging factor is the interruption of the patient's work. If he can be made to understand that the time spent in the cure of tuberculosis may be used for worthwhile pursuits, his attitude may change.

Adjustment to regimented sanitorium routine is not easy for people who have been accustomed to freedom of action, so it is not unusual for that loss of freedom to be transferred into speech. Sometimes remarks are unfriendly, sometimes definitely abusive. The nurse who makes an honest effort to be wise, thoughtful, and kind in her response to the patient can accomplish small wonders in helping to control such periods. It is necessary to find out why patients act as they do when things go wrong. With this knowledge the nurse can help them accept more calmly situations that cannot be changed. Above all, the nurse must recognize that each patient is very much a person with normal desires for recognition similar to her own.

Of utmost importance to the patient is the realization that there is someone to whom he can talk as freely and fully as he wishes and know that his confidence will be kept. Too often there is not this opportunity to share a fear with some understanding person and thus relieve the emotional tension that is interfering with the cure.

During the period of bed rest nurses come to know the individual needs of their patients. This knowledge will prove helpful if surgery is recommended. Just as they need help in adjusting to hospital routine, so too, patients may find it difficult to adjust to leaving the sheltered life of the hospital.

The doctor diagnoses, treats and sets the pace of the program for the patients. He interprets the disease and its limitations to the patients so that they will have an intelligent, realistic idea of their possibilities and limitations. The nurse must encourage them to follow the orders implicitly. A kindly word, a moment of time, a smile, can do much to help. A word of encouragement can motivate them to utilize opportunities to learn and enrich their spiritual life also. Cheerful surroundings, sunshine, a comfortable bed, cleanliness, and happy faces will do a great deal to prevent feelings of depression from overwhelming the patients. They must never be allowed to feel they are a burden or a care, or that family and friends are neglecting them. One must use every possible device to stimulate the will to get well. Without this desire a patient losses ground rapidly, in spite of the best of care. If he realizes that loss of courage means playing into the hands of the enemy he will redouble his own efforts to keep cheerful and fight against discouragement and its bad results.

In conclusion, the need for nurses to develop positive mental attitudes towards the cure of tuberculosis cannot be overemphasized. Patients readily sense the lack of assurance in the nurses and yield to discouragement and indifference. The optimism of the devoted nurse on the other hand is contagious and diffuses sunshine throughout the ward.

Nursing Investigation of a Tuberculosis Outbreak

PHYLLIS BATT

SEVERAL CASES OF ERYTHEMA NODOSUM were noted by the family physician of a small village (Pop. 1,550) during the last three months of 1951. The situation was reported to the Tuberculosis Control Division of the New Brunswick Department of Health by the physician.

This village is served by one physician and the nearest hospital is 16 miles away. Industries are lumber mills and a brick plant.

The cases of erythema nodosum developed suddenly among a group of school children. None had been tuberculin tested previously but following the outbreak it was discovered that all were positive. During the following months four of these cases (three of them 15-year-old girls) developed evidence of pulmonary infiltration. The public health nurses for the district were requested to help with the investigation under the direction of the Director of Tuberculosis Control and the family physician.

During the first week of January before the mobile x-ray unit was sent to the village, the nurse patch-tested the school children up to and including grade 9. The result of this survey revealed 23 per cent were positive, with a sharp increase noted in the grade 9 group. The high school in this area is a modern regional unit with bright, airy rooms and no overcrowding. There were two grade 9 classrooms; 9A had 9 positives out of a total of 21 or 43 per cent positive, and 9B had 18 students all of whom were positive. Other students of this 100 per cent positive class were at home due to pleurisy. It was noted that one student from this class had dropped out of school at Christmas to work in the woods. The nurse requested his mother to make sure that he had an x-ray; later that month he was admitted to sanatorium with a diagnosis of far advanced tuberculosis with sputum positive. This was the same class that had had five cases of erythema nodosum.

This community is 50 miles from the public health nurses' office. The request for investigation came just before Christmas so it was difficult for the nurses to make extensive plans. Word was sent to homes by the teachers and school children that pre-school children could be patch-tested at the same time. Of the 30 tested only one was positive. This case will be mentioned later. The nurses contacted the families of known cases of tuberculosis by letters and visits requesting everyone to have an x-ray.

The results of this survey indicated the necessity for a chest clinic. The nearest tuberculosis clinic was 80 miles from this community, so a mobile clinic was organized. Due to snow conditions it could not be held until

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March. The nurses worked closely with the family physician and director of Tuberculosis Control helping with additional surveys and clinics held in June and October, 1952. Since then, mass surveys and chest clinics have been held every six months.

At the end of the first year, the nurse made a map of the village in order to locate any concentrated areas of infection. One section was found to have many patch positives, pleurisy with effusion, new cases, and a few known cases who were actually well since they were living at home. Living conditions were more crowded in the area with small houses and lower incomes. There was one small grocery store that was always busy; the owner lived at the back. It was noted that two open cases had spent much time at this shop—a man, aged 28, who was admitted to sanatorium in May, 1951, and the ex-school boy whom we had almost missed during the January, 1952, survey. From these two it appeared that a chain of infection had started. The wife, son and school-age sister-in-law of the young married man have been treated since in sanatorium; another sister-in-law (school age) has been resting at home.

Before his admission to sanatorium, this young man had often gone next door to get water as he did not have a pump in his own home. It was the neighbor's younger pre-school child who had the positive patch mentioned earlier. Her sister, who was a little older, was usually playing away from the house and remained patch negative. It was found later that another case of tuberculosis, diagnosed at the March clinic, had lived on the other side of this man.

The school boy attended school for the fall term of 1951.

His sister was admitted to sanatorium shortly after his admission. As a matter of interest, the storekeeper had three children. The two pre-school children who were often in the store became patch positive and one child was admitted to sanatorium. The third child was of school age but due to a physical deformity lived with her grandparents in another part of the village. This child is still patch negative.

During the school year of 1952-53, the nurses completed the patch testing in all grades and followed up with second strength old tuberculin. Of the 286 tested with the latter, 19 were found to be positive with the highest percentage in the high school group. Because there were no positive reactions in grades 3 and 4, the second strength test was not carried out on grades 1 and 2. The public health nurses were busy with their general program at this same time and feel that the cooperation of the students and teachers should be commended. In the regional high school the second strength tests were done in the health office but in the elementary school the nurses set up their equipment in the classrooms. All of the students were patient, but we feel honors should go to the elementary students who showed complete lack of nervousness. The teachers aided by keeping consent slips in order and filling out x-ray survey cards for their pupils. Results of the tests were recorded on the children's health records.

During the school years of 1953-54 all negative reactors were again patch-tested along with those who had never been tested. This time only one student showed a change from negative to positive. The teachers were kept informed of the children returning to school on limited activities. It will be necessary to continue close observation of this area for some time.

The Spirit of Easter

An ancient legend tells that wherever the risen Savior walked, white lilies sprang in His footprints. Thus the origin of the Easter lily. The egg symbolizes the rebirth of Spring. The cross of flowers is a survival of the days when early Christians, worshipping in secret, drew crosses on the wall of catacombs to testify that the spirit of Christ dwelt there. Because real eggs, originally exchanged at Easter-time, seldom survived unbroken in the mails, the people of Northern Europe, about 1850, began sending pictures of painted eggs. Thus, Easter cards came into being.

NURSING EDUCATION

Student Affiliation in a Hospital for Tuberculosis

Edith Eldridge

How, when, where, and why did tuberculosis nursing become a specialized field in Canada? The story takes us back to 1904 when "The Toronto Free Hospital for the Consumptive Poor" with room for four or five patients was established in a farmhouse, situated on 49 acres of land overlooking the Humber Valley near the village of Weston.

The Muskoka Cottage Sanatorium and the Muskoka Hospital for Consumptives had been opened in 1896 and 1902 respectively. Both of these institutions were intended for incipient cases of tuberculosis only. There were many other victims who were in much more serious condition, whose plight was all the more distressing because general hospitals would not accept them from fear of contagion. Some provision had to be made for them.

It was recognized that a hospital for such cases would, for various reasons, be more desirable if situated near Toronto — hence the inception of the Toronto Hospital for Tuberculosis at Weston. The fact that this hospital was for terminal cases only gained us the unfortunate but possibly correct reputation — held until quite recently — that "everyone who goes to Weston dies." As far as the general public was concerned, admission to Weston sounded the death knell of the patient. At the same time, the idea was a big step as a public health measure towards prevention.

In 1906 Sir William Broadbent, M.D., F.R.S., visited the hospital and afterward contributed an article to the *British Medical Journal,* in which he said "The Hospital for Consumptives in Toronto is the first which, so far as I am aware, has been erected purely and simply with a view to prevention. I do not know who is to be credited with the idea — whether lay or medical — but I regard it as a fine instance of Canadian common sense and foresight."

Tuberculosis was not as well understood then as it is today, and much difficulty was experienced in obtaining graduate nurses to care for the patients. No special interest or concern regarding this situation had been aroused in the nursing field. On the contrary, the prevailing attitude was one of "dread of contact with the patient," and very few were willing to "take the risk." For this reason Miss E. MacPherson Dickson, who was at this time lady superintendent of the hospital, sponsored the idea of starting a training school of nursing in tuberculosis in conjunction with the hospital. In spite of considerable apathy and in some instances opposition, such a school was founded in 1906. A two-year course was planned for "young women desiring to nurse cases of tuberculosis," who at the completion of the course received a certificate as "graduate in tuberculosis nursing." Thus specialized training in tuberculosis nursing began in Canada.

With the growth of the hospital the need for nurses increased proportionately. The student enrolment enlarged and the program developed until, in 1912, a ten-month affiliation in medicine, obstetrics, surgery and pediatrics

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was arranged with Fordham General Hospital, New York. A further 2-month affiliation with Riverdale Hospital was planned at the same time, extending the course to three years, with a certificate qualifying the graduate to do general nursing. In 1922, a nine-week affiliation in tuberculosis was offered to students in general hospitals. For several years students from nine of the Toronto hospitals, as well as from several other points in Ontario, enrolled for affiliation and the arrangement worked very satisfactorily. Due to the depression in the 1930's there was a surplus of nurses, many of whom had difficulty obtaining employment. It was decided that this hospital could best be served by discontinuing the training school and employing an all graduate nursing staff. The last class graduated in 1936.

In order that the valuable opportunity and material for teaching would not be lost altogether, and realizing the very great need for the continued education of student nurses in the nursing care and treatment of tuberculosis, the affiliation program was continued and extended to provide a certificate postgraduate course for graduate nurses.

For some years the response to this program was very encouraging and felt to be well worthwhile. In 1936 there were 84 students from 12 schools of nursing. This increased gradually until in 1941, 150 students enrolled. Then the numbers began to drop. One year we had as few as 34 affiliates.

This decrease in enrolment came simultaneously with (1) the general staff shortage in all hospitals due to the war, (2) the recommendation that tuberculin negative students should not affiliate in hospitals for tuberculosis. This decision eliminated a great many of those who really desired to gain this experience. For the past 10 or 15 years a very small percentage of young adults has shown a positive reaction to tuberculin, without BCG vaccination.

From an educational viewpoint, we were very concerned over this situation. Many questions have been raised. How are these young nurses to be made aware of the possibility of the presence of undiagnosed tuberculosis in patients? Where will they learn the modified techniques for protection of themselves in their daily service to these unsuspected, undiagnosed cases? How will they overcome the fear of the disease? The last point is a quite common but understandable reaction for the simple reason that the average student knows little about the cause, treatment, nursing care and prevention of tuberculosis.

Just as important is the need to overcome the lack of concern that some nurses seem to feel over the fact that the patient in a sanatorium is a person, a part of the community, and that these patients need nursing care and understanding of their problems as in any other illness. This fear and reticence concerning tuberculosis, we knew, could not be overcome by lectures and reading alone. Knowledge gained through practical experience and personal contact with the patient is needed to help develop the understanding and confidence required.

Even with an affiliation and postgraduate course, only a very small percentage of nurses knew anything about tuberculosis. During the war years, this became very evident in the numbers of registered nurses who were afraid to nurse in a hospital for tuberculosis. Many of them admitted they were afraid — if they themselves were not, their family or friends were quite sure that the nurse would take the infection home to them.

Those who did venture out to help us for four weeks at a time, even though they were afraid, told us afterward "that they had no idea previously what a sanatorium was like, or how clean it was," and expressed surprise that "the patients were not all dying." They wondered why they had been afraid. We could readily answer that — it was dread of the unknown. Aren't we all fearful of the unknown?

It is felt that this unfortunate reaction on the part of the qualified professional nurse could be eliminated by an affiliation for all student nurses. Now that BCG vaccine is becoming more widely used, there seems to be a renewed interest in bringing forward for discussion the desirability and probabilities of student experience in tuberculosis nursing. Moreover, a more concerted effort is being made to plan and develop an acceptable and adequate educational program of lectures, demonstrations and clinical experience. More sanatoria are equipping themselves as teaching centres in readiness to provide for the students this much-needed education and experience. There are several objectives in planning such an educational program:

> To dispel fear of the disease by providing clinical experience under controlled conditions, imparting through lectures and demonstrations a thorough knowledge and understanding of the cause, modes of transmission, prevention, and control measures used within the hospital and by the Department of Public Health in the community.
>
> To provide basic experience and the knowledge requisite to entering the field of public health nursing.
>
> To help the nurse acquire a sympathetic understanding of the socio-economic and psychological aspects and problems concurrent with this disease, and the steps that may be taken to alleviate them.
>
> To instruct her in nursing care and a practical modified communicable disease technique, the principles of which may be utilized in the care of any long-term or contagious illness.
>
> To develop an awareness of the importance of her own health practices and of her place and responsibility in the community as a health teacher.
>
> To help the nurse acquire the confidence and courage to respond to the need of the patient who is ill with tuberculosis and to provide the professional skill and understanding of his problem for which she has received preparation.

Since the affiliation program commenced over 1,500 students have affiliated at Weston. We are very gratified that the enrolment of students and number of hospitals participating in affiliation is gradually increasing.

Fortunately, the former hazard of the patient with unknown or undiagnosed tuberculosis has lessened during the past few years through the development of the plan of taking chest x-rays of all patients on admission to general hospitals. But even with this and the use of chemotherapy we have no reason to believe that tuberculosis will be nonexistent for many years to come at least. In the meantime it is a problem with which we must deal.

The staff as a whole is delighted to have the students come to us. We feel that in a specialized hospital there is a tendency to lapse into a comfortable, easy-going routine, but the fact that these young students come along every four weeks, full of interest and enthusiasm, does help to keep us on our toes, and stimulates the desire to keep abreast of change in trends of nursing care and treatment.

Our aim and the hope is that eventually all student nurses will receive at least four weeks experience in a hospital for tuberculosis. Naturally those of us immediately concerned are keenly interested in this educational program and are anxious to be of any assistance we can in its progress. We join in the hope that this goal will be realized in the near future.

Affiliating in a Tuberculosis Hospital

LOIS FULFORD

I PROPOSE TO WRITE about my experiences and some of the things I learned while on affiliation at a hospital for tuberculosis. This branch of my training was taken at the Toronto Hospital for Tuberculosis along with five of my classmates and five other affiliates.

Everyone will admit that before starting any new experience, one is somewhat apprehensive. That is the way we felt that day last fall. Few of us had been called upon to do tuberculosis nursing before. The general public fear of the disease had seeped into us whether we realized it or not. From

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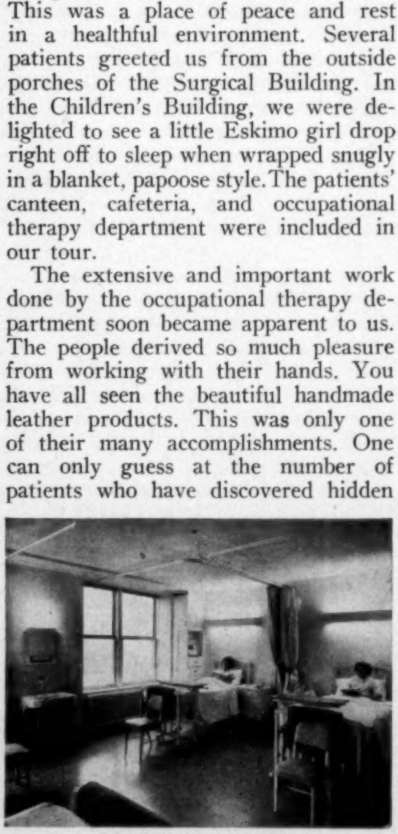
Miss Fulford spent four weeks at the Toronto Hospital for Tuberculosis at Weston while she was a student.

our own hospitals we carried the thought of "isolation" technique and all its implications. How did these people feel about being isolated from the community? How could we give them good nursing care with our own existing fears? We thought it very strange the first morning when we were taken through and about the hospital without even putting on a mask. Strange it was also to see all the smiling faces. A few simple protective measures were outlined to us. I remember hot water being stressed. The first day we put a limit on its value after trying to sterilize thermometers with it. However, most of our fears had left us before we had been many hours in our new work.

One by one, the many hospital features were brought to our attention. We could not overlook the hospital grounds — the spaciousness and rich foliage, the fresh air, and sunshine. This was a place of peace and rest in a healthful environment. Several patients greeted us from the outside porches of the Surgical Building. In the Children's Building, we were delighted to see a little Eskimo girl drop right off to sleep when wrapped snugly in a blanket, papoose style. The patients' canteen, cafeteria, and occupational therapy department were included in our tour.

The extensive and important work done by the occupational therapy department soon became apparent to us. The people derived so much pleasure from working with their hands. You have all seen the beautiful handmade leather products. This was only one of their many accomplishments. One can only guess at the number of patients who have discovered hidden talents, new hobbies, or even new occupations through the work of this department.



A typical four-bed ward

Another feature of the hospital is its extensive educational program. Patients who should be attending school can, in most cases, continue their education within hospital once treatment permits. A staff of teachers is employed and many lessons can be given over the public address system to groups of students. Here we caught a glimpse of the amount of planning which has gone into the forming of this miniature community where people live together in unity and harmony.

Tuberculosis patients frequently feel that they would like to take "the cure" at home in a secure, familiar environment. They do not realize how soon they would become impatient. All the little frets and worries of home life would interfere with their mental and physical rest. There would always be the worry of exposing other members of the family to the disease. It is far better for them to be within the security of a hospital where the advantages are many and the morale and spirit run high.

We could not help but realize the difference in the feeling existing among these patients and among patients in a general hospital. On a whole, they have a profound interest in each other. They want to help each other. Each one seems to feel he is one of a friendly band fighting the same kind of battle. Former prejudices, if any, are forgotten. The patients soon realize that their disease is no respecter of persons or neighborhoods. Treatments, including surgery and rest, are looked forward to with expectation, cooperation and interest.

A tuberculosis hospital is run on a democratic basis. The patients' council is a very active organization. Ward representatives comprise the council. Through his representative, each patient has an opportunity to voice his opinions about hospital affairs. Another of the patients' projects is compiling and editing a monthly magazine that is both informative and amusing. It gives a complete coverage of hospital life. Then there is the radio or public address system. A pair of earphones hangs over each bed. A variety of programs for listening pleasure comes over the system at appropriate times. These things help to make each day enjoyable and useful.

Religion has a very important part to play at a tuberculosis hospital. All denominations are represented. Church services are held regularly. Many people find the faith that they have been missing in the rush of everyday living. It becomes something real and vital within them. It was wonderful to see the patients gather together each Sunday to worship.

Two special opportunities we had during our tuberculosis training were of great interest. One was to watch an operation. As we viewed it from an observation balcony overlooking the modern operating room, each step in the procedure was explained to us through a loud speaker. We understood more clearly why surgery has become important in tuberculosis treatment. It gives these people new hope. Before undergoing surgery, the patients are well prepared. Pre-operative training is an invaluable step toward fast recovery. The willingness and cooperation given post-operatively made it a joy to work with these patients.

Each of us was given an opportunity to visit the Gage Institute in Toronto where we saw the diagnostic measures and follow-up treatment for tuberculosis. The public service offered there is worth a great deal to the community. We should never hesitate to buy Christmas Seals for the maintenance of the work of this and similar institutions.

Through our day-to-day lectures we soon realized that tuberculosis nursing is quite different from general hospital work. Here there was a group of people with a common illness. The average patient does not feel or appear ill. In most things they care for themselves. What then is the nurses' approach? We were taught that it is chiefly psychological. Great value is placed on the initial interview with the patient at which time skill is necessary to help him in his adjustment to a new environment and new philosophy of living. On admission, many of them are extremely upset and fearful. It is a difficult task to break down their fears. Everything must be explained with care, detail and understanding. Interest must be shown in the patient as an individual. His questions are worth answering. He needs assurance that he is acceptable to us even while temporarily unproductive. All plans are slanted toward his eventual return to activity.

At the initial interview, each patient is taught a few simple prophylactic measures that are necessary for the protection of the staff as well as the other patients.

These include: the use of paper bags for disposal of tissue wipes; how to hold the tissue wipes over the nose and mouth while coughing and sneezing, then depositing them immediately in the bag; how to hand the thermometer back to the nurse so the contaminated end need not be touched. If sputum is present, a special waxed container is used. These are changed frequently, the old one being wrapped and tied securely by the patient, for deposit in special tins.

An outline of the hospital features, methods of treatment, visiting hours, etc., is provided. An introduction is made to the facilities of the admitting ward, where a short time is spent before absorption into the regular wards for continuation of treatment. The x-ray and blood work is explained. Shortly after admission the doctor makes his first visit. The following day, the superintendent pays a friendly call.

The nurse, as friend and counsellor, endeavors to gain the patient's confidence and review his problems (social and emotional) so that he will have peace of mind and be willing to carry out, to the full, the required rest and necessary treatment. The nurse must be aware of her own emotions, so that they will not go beyond the limit where service can be given in a composed and kindly manner. If she is afraid, she cannot nurse effectively.

During our training we became aware of the abundance of literature in pamphlet form made available to the public through the Canadian Tuberculosis Association. Every phase is covered from prevention to rehabilitation. The patients have access to this literature too, and gain insight into their conditions. From the moment they begin treatment they become potential advertisers and teachers for the prevention of tuberculosis. The hospital provides free booklets on how to care for themselves, how the prevent cross-infection, and the limits of the disease. The value of rest is stressed. New research is mentioned. With a thorough understanding of his condition, the tuberculosis patient can see the value of treatment and, above all, prevention.

Rehabilitation can be a problem. Where will they get the money? Will they get a satisfactory job? Will people accept them? The hospital is doing a great deal to help. A special rehabilitation committee meets each week. Suitable employment opportunities and special problems are discussed. Unfortunately everyone, even today, does not cooperate in accepting these people back into the community. Prolonged hospitalization makes it that much harder. Nurses can assist greatly in public education.

We reached some very definite conclusions regarding the value of tuberculosis affiliation for *every* student nurse. True, a course of lectures can be given in the home school but any subject is less meaningful when practical application of the theoretical essentials are omitted. Though a few tuberculosis patients may be admitted to general hospitals, the rigid isolation techniques that must be set up tend to build up excessive fear of the disease. A far more vivid and intelligent picture of the opportunities for the arrest of the disease can be gained from a few weeks' affiliation in a specialized hospital. The exaggerated fear of tuberculosis that is common among so many members of our profession would be dispelled if this form of affiliation was as widely accepted as all the other branches are.

My Attitude Has Changed

JEAN BLACK

WHEN ONE IS A SMALL CHILD certain things are very vivid and make a deep impression on one's mind. I recall how my mother, in various snatches of conversation over the dinner table, would and still does describe in detail the morbid state of her Aunt Agnes who spent months and months in "that Sanatorium," with pleurisy. She would relate how the poor creatures had to lie there day in and day out and simply lived on milk and fresh air. I can still picture what I then imagined — rows of hospital beds with tumblers of milk on the tables beside them, the windows sky high and in winter drifts of snow blowing about.

To me tuberculosis has been a disease like leprosy excepting that those afflicted were not banished to some far-off island, but were moved to a sanatorium in the country away from their families and friends. I had the notion that only poorly nourished Orientals or the like got what was called "T.B." Certainly I thought that I was safe and also my family. It was something that just didn't happen to us.

In the years before I entered training I gave the disease little thought. There was always that envelope of "T.B." Christmas seals in the mail — the annual remainder and appeal for funds; but I left the financial arrangements to my father or whoever paid for them — if anyone did — and my life went on as usual.

Now my attitude has changed and I take the lead in the conversation when discussing tuberculosis. True, I know the value of fresh air and milk in the "cure" but I have seen and talked to patients from right around home — people who, though they have a contagious disease, are keen on doing all in their power to be cured. Of course I have seen others who are uncoopera-

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Miss Black, as a student at the General Hospital, Guelph, Ont., had her point of view changed when she went for her four weeks' affiliation.

tive and feel life is too short to spend years lying around in bed, but one meets all types of people.

Seeing patients in my own age group was rather startling at first. More and more I am thankful it hasn't happened to me. The fact that there is no severe pain with the disease is somewhat gratifying. I have a new slant on the values of bed rest, patient teaching, occupational therapy, and vocational guidance, to mention only a few. These things will be most useful to me as a citizen should I never nurse a day after graduation. One thing is certain I shall never pass a donation box, bearing the familiar symbol of tuberculosis with a clear conscience.

My affiliation is something I shall never forget. Nursing a patient with a communicable disease, gaining a smattering of public health and an awareness of sanatorium routine, is of great value to any nurse's career. It broadens the "trainee's" outlook, makes her realize the need for nurses in the field and stimulates her curiosity for research.

Selfish though it may seem I am grateful to have had the opportunity of affiliation even if it only means I can hold my own in an argument. If I can manage to clear up small fragments of misconstrued ideas in people's minds, whether they be my patients, my family, or my friends, then I shall know that was time well spent.

In Memoriam

Eva (Bazinet) Bertrand, who graduated from The Montreal General Hospital in 1922, died after being struck by a bus in Montreal on December 15, 1954. Mrs. Bertrand had been a very active member of the staff of the Greater Montreal Branch, Victorian Order of Nurses for the past 32 years.

* * *

Annie L. (Rodger) Bishop, a graduate of the General Hospital, Galt, Ont., died on January 25, 1955, at Toronto, at the age of 77.

* * *

Ida Newman Burrell, who graduated from The Montreal General Hospital in 1918, died in England in September, 1953. After many years in private nursing, Miss Burrell went to England where she worked at the War Memorial Hospital in Farnborough.

* * *

Doris Jean (Corcoran) Cloarec, who graduated from Holy Cross Hospital, Calgary, Alta., in 1945, died recently at Camrose, Alta., following a very brief illness. Prior to her marriage, Mrs. Cloarec had engaged in public health nursing in Saskatchewan and Alberta. She was enrolled at the McGill School for Graduate Nurses in 1950.

* * *

Leona (Schwartz) Henry, who graduated from General and Marine Hospital, Owen Sound, Ont., in 1950, was killed in a car accident on January 18, 1955.

Anna (McNiven) McGuire, who graduated from St. Michael's Hospital, Toronto, in 1904, died at Wexford, Ont., on December 12, 1954, after a prolonged illness.

* * *

Frances Margaret Maud McKee, who went from Ontario to Montpelier, Vermont, to secure her training, died suddenly at North Bay, Ont., where she had worked for the past 40 years, on January 18, 1955.

* * *

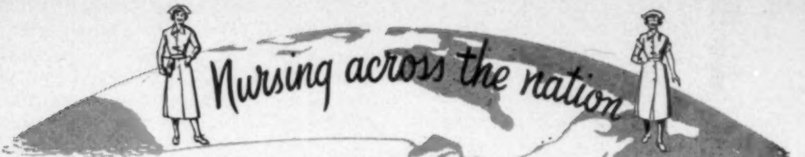
Catherine McNeil, who graduated from the John Stratford Hospital in 1897, died at St. Thomas, Ont., on January 21, 1955.

* * *

Mary Elizabeth Swanson, who graduated from St. Paul's Hospital, Vancouver, in 1928, died at Kamloops, B.C., on January 9, 1955, at the age of 48. Miss Swanson had worked at hospitals in several B.C. communities including Hazelton, Chilliwack and Ashcroft. After securing special training as an x-ray technician, she went to Tranquille Sanatorium where she had been chief x-ray technician for the past few years.

* * *

Alice Katherine Young, a native of Brockville, Ont., who graduated from City Hospital, Auburn, N.Y., in 1908, died there on February 14, 1955, after several months' illness. After nine years in private nursing, Miss Young returned to her alma mater as supervising nurse for 30 years. In 1947 she became receptionist there, retiring in November, 1954.



Nursing across the nation

prepared by your national office Canadian Nurses' Association, Ottawa

The Road to Efficiency

INCREASING AWARENESS of the advantages of specialization of skill and division of labor is growing up among Canadian nurses. This awareness has been heightened recently with the release to provincial associations of "The Study of the Activities of the Head Nurse," prepared by the Research Division of the Department of National Health and Welfare. The study points up the need for further research in the classification and allocation of nursing functions. Moreover, as a consequence of the February meeting of the C.N.A. Nursing Service Committee, provincial associations will be urged to carry out follow-up work on the head nurse study.

Greater nursing efficiency arising from such studies will depend on three major factors: Classification of nursing tasks; assignment of these tasks to groups of willing workers; and introduction of team work after labor has been divided.

Greater efficiency and re-distribution of nursing functions will, of course, depend on teamwork and harmonious human relationships in the assignment of work. There will be a need for mutual understanding and appreciation of the capacities of members of the team. The potential value of teamwork is tremendous. It provides a practical application of the division of labor. This combination of nursing skills and tasks to be performed should avoid situations where a highly trained nurse would spend time on many routine tasks.

Teamwork may be the source of much good, but could be a source of annoyance and inefficiency. It is beneficial only if the principles of administration and an understanding of human relations are applied.

Getting Oriented

Another important factor in nursing efficiency is the capacity of a nurse to reach a high level of performance as soon as possible after entering a new assignment. With this in mind, your association has prepared a manual which will assist nursing administrators in the programs and techniques to be used in orienting nursing staff in new jobs. This Orientation Manual was also discussed at the Nursing Service Committee meeting in February.

Rules of the Press

This column has already described the organization of newspapers and radio in a typical Canadian community. Through these channels of communication it is possible to reach and influence many groups. The press can play a vital role in the achievement of local nursing aims. Knowledge of proper methods of dealing with the press is, therefore, an advantage which nurses cannot afford to overlook.

The problem of more effective utilization of the press was one of the major topics of discussion at a C.N.A. Public Relations Committee meeting recently. It was agreed that nurses must learn to deal with the press on its own terms. What does this mean?

The interests of the press in nursing are not the same as a nurse's or a doctor's. Essentially, a newspaper's aim is to interest its readers; a radio station, to interest its listeners. The first rule of dealing with the press, then, is to develop nursing information in terms of the broad interest of newspaper readers and radio listeners.

This is an important principle to remember. Although few nurses are actively concerned with preparing news releases or stories, many will be

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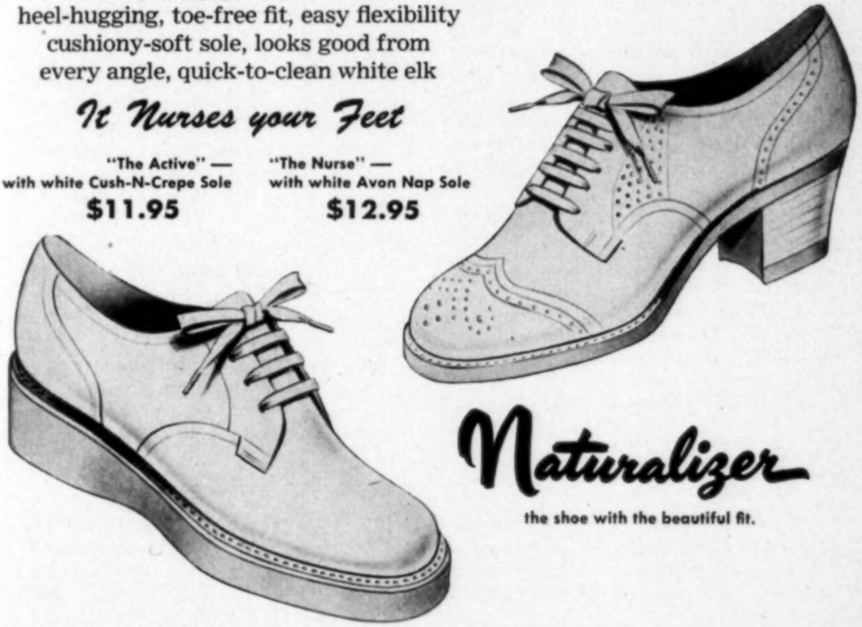

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approached from time to time by the press. These nurses should remember that things of particular interest to them may not be of much significance to the interviewing newspaper reporter or his reading public. It is essential, then, to avoid technical nursing or medical terms that may not be understood by the general public. Conciseness of information is another feature that appeals to editors. In fact, clarity, simplicity and brevity will increase the chances of nursing releases being used by the press.

Exchange of Nurses . . . and Ideas

It would appear that few people are more conscious of the stimulation of travel than nurses. Each year large numbers of them go to foreign countries seeking positions. This interchange is not only valuable for the individual nurse but it also provides an important opportunity for the exchange of ideas which is beneficial to the profession as a whole. One of the little known or used functions of the Canadian Nurses' Association is its supervision of the exchange of nurses between countries.

Exchange is a two-way flow. In 1954, 20 Canadian nurses went abroad to gain further nursing experience. The majority were from British Columbia and Ontario. About half of them went to Britain. In the opposite direction, National Office last year received 99 applications from nurses in 14 different countries who were interested in employment or study in Canada. Their choice of provinces in order of preference was: Ontario, Quebec, British Columbia, Alberta and Manitoba.

These exchange facilities, designed to foster international understanding among nurses, are available to members of all national nurses' associations affiliated with the International Council of Nurses. Through the C.N.A., a Canadian nurse wishing to work abroad may obtain an "Exchange Privilege Form." Nurses are invited to take advantage of this useful C.N.A. service.

Convention Call

Plans are under way for the next biennial convention — now only 14 months in the offing. The dates are

June 25 to 29, 1956.

The last two conventions have been held in famous hotels: the Château Frontenac, Quebec, and the Banff Springs Hotel. Scene of the 1956 meeting will be the progressive University of Manitoba whose lovely campus is situated in suburban Winnipeg. This change of locale will provide an opportunity for a more diversified program. In a hotel the provision of sufficient rooms for many discussion groups is not always possible or practical. This should not present any problem on the University campus.

With a view to advancing preparations for the 1956 meeting, the new convention coordinator, Mrs. Ethel Armstrong Collins, travelled recently to Winnipeg. Convener of transportation for the last convention, Mrs. Collins possesses considerable experience in the organization of such functions and events. With her assistance, the next biennial should be even bigger and better.

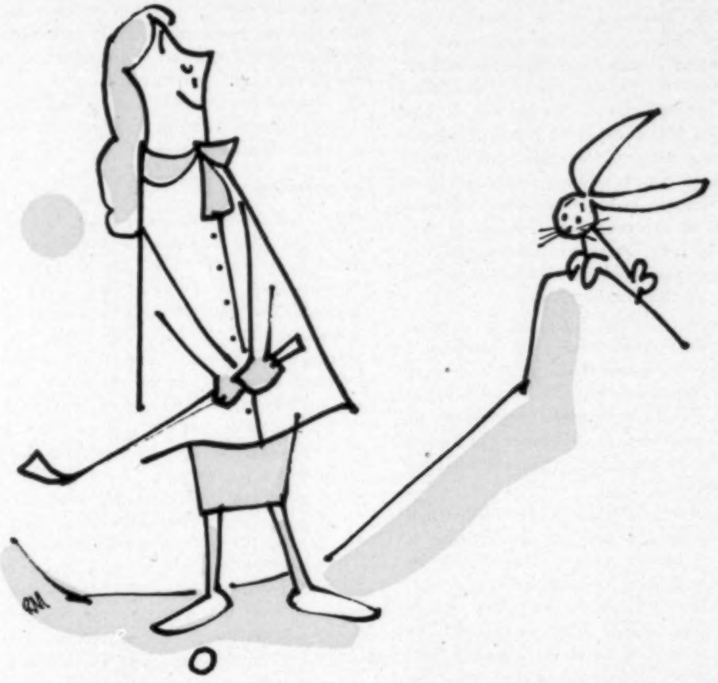
Ontario Workshop

An important workshop sponsored by the Registered Nurses' Association of Ontario was held in Toronto, March 7-11. Purpose of the workshop was the interpretation of "Curriculum of Information for Schools of Nursing in Ontario" published by the RNAO in 1953. Attendance was restricted to instructors from Ontario schools of nursing.

Physically, at any rate, the ties between identical twins are far greater than between any other relations, including parent and child. These twins can literally take on each other's personalities. When a 12-year-old boy was severely burnt, skin was taken from his identical twin brother to complete the necessary grafting after some of his own skin had already been used. The two lots of grafts behaved in just the same way. Only the identical twin could have given skin that would have taken as a permanent graft.

— SIS: *Medical Features*

Mothers-to-be are so healthy nowadays!



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Le Nursing à travers le Pays

Le chemin de la compétence

Les infirmières canadiennes se rendent compte de plus en plus que la compétence dans une tâche ou dans un domaine particulier — la spécialisation — présente des avantages. Elles sont plus conscientes de ces avantages depuis la récente publication* "The Study of the Activities of the Head Nurse" préparé par le Service de la Recherche du Ministère de la Santé Nationale et du Bien-Etre. Cette étude fait voir la nécessité de poursuivre les recherches dans la classification et la suite d'une décision prise lors de la réunion du Comité du Service du Nursing. Les associations provinciales seront encouragées à continuer l'étude des fonctions de l'hospitalière.

Nous nous rendons compte à la suite de ces études que trois facteurs permettront à l'infirmière d'accomplir son travail avec une efficacité croissante : classification des tâches en nursing ; répartition des tâches parmi un personnel disposé à les accomplir ; et l'introduction du travail d'équipe après la division des tâches.

Le rendement sera accru et la rédistribution des tâches sera facilitée par l'attitude de l'équipe au travail et l'harmonie dans les relations humaines. La compréhension mutuelle et l'appréciation du travail de chaque catégorie de l'équipe sont nécessaires. La valeur du travail d'équipe est immense, c'est une application pratique de la répartition des tâches. En considérant à la fois la préparation de l'infirmière et les tâches devant être accomplies dans les soins des malades, l'on évitera de confier à l'infirmière un travail de routine où ses connaissances ne seront pas mises à profit.

Le travail d'équipe peut être une source de bienfait mais aussi une source d'ennui et de perte de temps. L'efficacité du travail d'équipe résulte de l'application des principes d'administration et de la compréhension des relations humaines.

La période d'orientation

Un autre facteur important contribuant à l'efficacité du service infirmier est la préparation — orientation — à donner au personnel dès qu'une tâche lui est confiée afin de lui permettre de l'accomplir le mieux possible et ce, le plus tôt possible. Afin d'atteindre ce but, un manuel d'orientation a été préparé par votre association. Il aidera les directrices du service du nursing en les renseignant sur les programmes et les techniques employés dans l'orientation du personnel infirmier à des emplois nouveaux.

Ce manuel d'orientation présenté au Comité du Service du Nursing en février dernier, fut l'objet d'une discussion.

Les règlements de la Presse

Dans ces pages nous vous avons fait connaître, ces mois derniers, l'organisation des journaux et de la radio, comme nous la trouvons dans la majorité des villes du Canada. Leur influence sur l'opinion des masses est bien connue. La presse peut jouer un rôle important en faisant connaître le travail accompli par les infirmières dans leurs localités et le but qu'elles poursuivent. Par quelles méthodes, par quels moyens les infirmières peuvent-elles s'assurer de la coopération des journaux ?

Une meilleure utilisation des services de la presse fut l'objet d'une importante discussion au Comité des Relations Extérieures de l'Association des Infirmières Canadiennes lors d'une récente réunion. Tous les membres furent d'accord à reconnaître que les infirmières, lorsqu'elles travaillent avec la presse doivent apprendre à évaluer les faits selon les normes d'un journaliste. Qu'est-ce que cela veut dire ? Les faits qui intéressent la presse, ne sont pas toujours ceux qui intéressent un médecin, une infirmière. Le but primordial d'un journal est de renseigner ses lecteurs ; celui d'un poste de radio est d'intéresser ceux qui sont à l'écoute. La première règle à observer à l'égard de la presse est de fournir des informations susceptibles d'intéresser la majorité des lecteurs des journaux et de ceux qui écoutent la radio. Voilà un principe important à retenir.

Il est vrai qu'il y a peu d'infirmières dont l'occupation consiste à préparer des communiqués ou des nouvelles aux journaux concernant les infirmières, mais à l'occasion les journaux leur demanderont de préparer quelque chose ou d'aider leurs reporters à le faire. Les infirmières feront bien alors de se rappeler que ce qui les concerne particulièrement peut n'avoir aucun intérêt pour le

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*L'édition française n'a pas encore été publiée.

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public. Il est essentiel d'éviter l'emploi de termes techniques de nursing ou médicaux. La concision dans les informations données est une qualité appréciée de la rédaction. Vos chances de faire accepter par la presse vos communiqués et nouvelles seront beaucoup plus grandes si elles sont claires, simples et concises.

Echange d'infirmières et d'idées

Les voyages sont formateurs a déjà dit un éducateur célèbre. Les infirmières, plus que tout autre groupe, semblent retirer un bénéfice des voyages; chaque année un grand nombre d'entre elles vont dans des pays étrangers chercher du travail. Ces voyages en plus d'être utiles à l'infirmière permettent un échange d'idées favorable à la profession toute entière. Le travail de l'Association des Infirmières Canadiennes dans ce domaine est peu connu et consiste à guider les infirmières et à organiser des échanges entre les infirmières de divers pays.

C'est un échange réciproque entre deux pays. En 1954, vingt infirmières canadiennes se sont dirigées vers l'Europe afin d'acquérir plus d'expérience en nursing. La majorité d'entre elles venaient de la Colombie Britannique et de l'Ontario. La moitié allèrent au Royaume-Uni. D'Europe, 90 infirmières venant de 14 pays, s'adressèrent au secrétariat national, soit pour trouver de l'emploi ou pour étudier au Canada. Leur préférence furent pour les provinces d'Ontario, Québec, Colombie-Britannique, Alberta et du Manitoba.

Le service des échanges, qui ont pour but de favoriser l'entente internationale parmi les infirmières, est à la disposition de tous les membres des associations nationales affiliées au Conseil International des Infirmières.

Par l'intermédiaire de l'A.I.C., une infirmière qui désire travailler outre-mer peut obtenir la formule intitulée "Privilège d'échange" du secrétariat national. Vous êtes invitées à avoir recours à ce service.

UN APPEL POUR LE CONGRES DE 1956

Les projets pour le congrès de 1956 vont bon train, il ne reste que 14 mois pour les réaliser. Les dates du prochain congrès sont: du 25 au 29 juin 1956.

Les deux derniers congrès eurent lieu dans des hôtels de grande classe: le Château Frontenac et Banff Springs Hotel. La scène changera en 1956. La moderne Université du Manitoba, située dans la banlieue de Winnipeg, recevra les congressistes. Ce changement de milieu permettra l'exécution d'un programme différent. Dans les hôtels le nombre de salles est souvent limité ou elles ne se prêtent pas aux discussions par groupe; dans une Université, ces problèmes ne se présentent pas. En vue de préparer le programme de 1956, Mme E. Armstrong Collins, la coordinatrice des congrès, s'est rendue à Winnipeg. Comme convocatrice et coordinatrice du transport lors de la dernière convention, Mme Collins a une grande expérience dans l'organisation de congrès et d'événements de ce genre. Avec son aide le succès du prochain congrès devra être considérable.

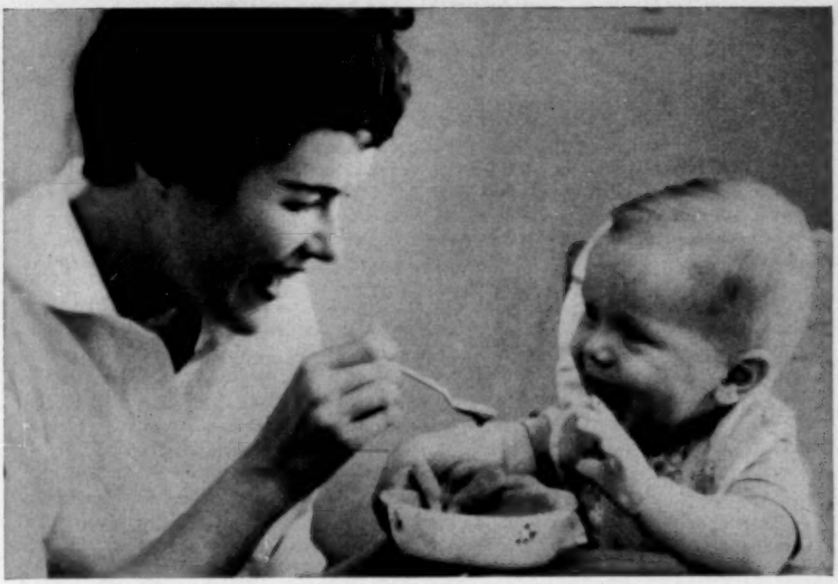
Les journées d'études en Ontario

Les journées d'études, organisées par l'Association des Infirmières Enregistrées de l'Ontario, eurent lieu à Toronto du 7 au 11 mars. Le but de ces journées était l'interprétation du "Programme à l'usage des Ecoles d'infirmières de l'Ontario" publié par l'Association des Infirmières Enregistrées de l'Ontario en 1953. Les journées d'études étaient exclusivement pour les institutrices des 60 écoles d'infirmières de l'Ontario.

New Techniques for Repeated Injections

A new way of easing the pain of injections — of particular importance for those whose illness requires continued and frequent "shots" — is reported by Dr. Theodore Cornbleet, of Chicago's University of Illinois College of Medicine.

This technique is to produce a wheal in the skin with a droplet of the hormone hydrocortisone. He has found that the wheal develops into a harmless, small bump of seemingly dead tissue, and that a hypodermic needle inserted at this site produces almost no pain. The "painless island" of skin lasts for 10 to 14 months. The physician suggests that for diabetics four such areas be created, two on each thigh, thus enabling the patient to give himself painless insulin injections for an entire year. The process can then be repeated without any ill effects. (ISPS)



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Sélection

O. M. S. Troisième rapport du Comité d'experts des soins infirmiers

Les quelques extraits que nous vous présentons inciteront nos lecteurs à lire et à relire ce rapport très instructif.

Le Comité d'experts des soins infirmiers, après avoir traité dans ses deux premiers rapports de l'enseignement du Nursing, s'est préoccupé d'étudier l'administration de ce service. Il est intéressant, dans l'exposé des fonctions essentielles du Nursing, de noter que le concept de prévention a préséance sur l'aspect curatif :

1) assurer les soins infirmiers nécessaires pour prévenir la maladie et favoriser la santé.

2) assurer aux malades, par l'intermédiaire du personnel infirmier compétent

   a) les soins indispensables à leur bien être mental et physique, etc.

   b) les soins qu'exige le traitement de la maladie dont ils sont atteints.

Changements survenus dans la nature des soins médicaux et infirmiers. Nous indique bien les changements à apporter au programme d'études, que l'on en juge par ces lignes :

"Les nouvelles méthodes de traitement médical influent sur *l'activité* des infirmières tant dans les hôpitaux que dans les services de santé publique. L'introduction de la chimiothérapie et des antibiotiques est en train de modifier le travail de l'infirmière et d'imposer à celle-ci des tâches nouvelles. Du fait que les malades quittent plus tôt leur lit et que leur hospitalisation s'en trouve abrégée, ils ont besoin de conseils plus poussés sur les précautions et les soins à prendre par eux-mêmes et il faut se préoccuper davantage de préparer les familles au retour rapide du malade au foyer ; en outre, la coordination entre l'hôpital et les services de santé publique doit être renforcée pour éviter toute solution de continuité dans les soins quand le malade rentre chez lui. La complexité croissante des interventions chirurgicales exige de l'infirmière une formation plus étendue. L'importance accrue des mesures de réadaptation appelle le concours d'infirmières à la fois familiarisées avec les principes et les méthodes en cause et capable de faire oeuvre d'éducation. La psychiatrie et la médecine psycho-somatique jouent un rôle qui ne cesse de grandir dans les soins aux malades quels qu'ils soient et l'infirmière doit être initiée aux questions de santé mentale. Enfin les progrès de la médecine et de la santé publique amènent l'infirmière à collaborer à la prévention des maladies et à l'amélioration de la santé."

Après avoir étudié la multiplication des cas où il est fait appel à l'assistance du personnel infirmier et de la médiocrité de la condition de l'infirmière, et, dans certains cas, de la femme en général, le Comité entre dans le vif de son sujet avec "L'administration des services infirmiers."

Elaboration du plan.

La réussite de tout projet dépend, dans une large mesure, de la façon dont il a été conçu. L'établissement d'un plan est un processus méthodique qui ne saurait être laissé au hasard : L'ordre dans lequel il faut procéder est le suivant :

1) Appréciation ou définition du problème.

2) Réunion du personnel technique directement intéressé — et, s'il y a lieu, consultation des malades et de leurs familles.

3) Analyse du problème par les membres du groupe, qui passeront en revue les principaux facteurs entrant en jeu.

4) Etude de ces facteurs par le groupe, qui s'efforcera de déterminer les causes des difficultés et les moyens d'y remédier.

5) Accord sur les décisions et mesures que le groupe peut prendre immédiatement.

6) Consultation de personnes compétentes par un ou plusieurs membres du groupe, selon les voies appropriées : analyse et étude plus détaillées du problème et accord sur des mesures supplémentaires.

7) Mise au point d'un plan et réponse aux questions suivantes :

a) Qui sera chargé de l'exécution ?

b) Quel sera le personnel éventuellement nécessaire ?

c) Quelle sera la formation à donner à ce personnel ?

d) Quelles seront les installations, le matériel ou les fournitures à prévoir ?

Une fois établi, le plan devra être mis à

Ce rapport concernant l'administration d'un service de Nursing porte le numéro 91, il est publié en anglais et en français. On peut se le procurer en s'adressant à Periodica, 5112, rue Papineau, Montréal.

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exécution le plus tôt possible. L'intérêt éveillé par ce travail en commun et l'impulsion donnés à cette occasion pourraient s'éteindre si l'exécution était inutilement retardée.

La mise en application d'un plan nouvellement conçu ne manquera pas de rencontrer certains obstacles, car la résistance à tout changement est une des caractéristiques fondamentales des individus et des sociétés humaines. Il serait peu judicieux de ne pas en tenir compte. Cette résistance repose sur les habitudes acquises et sur un ensemble de conceptions traditionnelles et en ce sens, elle peut avoir son intérêt et son utilité. Elle peut aussi découler d'un sentiment d'insécurité et de crainte à l'égard de toute innovation et risque alors d'aboutir à une opposition stérile. L'unique moyen de la surmonter, en pareil cas, est d'expliquer à chacun le but du plan envisagé et, si possible, d'en démontrer et d'en faire sentir les avantages.

Il faut que les membres du personnel soient convaincus de son utilité, et ils convient de se rappeler à ce propos que l'on ne peut entrainer la conviction de quelqu'un sans faire appel à la fois à son intelligence et à ses sentiments. Ceux qui sont pénétrés de la valeur du plan doivent donner l'exemple, de manière à emporter l'adhésion d'autrui. Ce serait certainement une erreur que de vouloir imposer un mode de comportement dont les intéressés ne comprendraient pas la raison.

Le succès dépendra également de la cohésion et de l'entente de tous les intéressés.

Exécution du plan

L'exécution du plan exige, elle aussi, que l'on procède selon un ordre bien défini. Les étapes à observer sont les suivantes :

1) Présenter le plan à tous les intéressés.

2) Rédiger des instructions précises pour la mise en train du plan, en définissant clairement les tâches, les responsabilités et les pouvoirs de chacun.

3) Surveiller l'exécution du plan à toutes les phases pendant un certain temps.

Evaluation du plan

L'évaluation des résultats peut commencer à un moment quelconque, après la mise en application du plan; cependant, avant de porter un jugement définitif, il est préférable de laisser s'écouler assez de temps pour que les ajustements éventuellement nécessaires concernant l'utilisation du personnel et des moyens matériels aient pu être apportés. Une première évaluation fera quelquefois apparaître la nécessité de certains changements, sans qu'il faille y voir un signe d'échec ou de succès. L'évaluation comprend les opérations suivantes :

1) Contrôle des résultats, compte tenu des objectifs du plan.

2) Présentation des résultats aux membres du groupe organisateur et aux autres personnes intéressées à l'exécution du plan.

Book Reviews

American Nursing, History and Interpretation, by Mary M. Roberts, R.N. The Macmillan Co. of Canada Ltd., 70 Bond St., Toronto 1, Ont. Price $6.00. 688 pages. 1954.

Reviewed by Grace M. Fairley, former president of C.N.A.

One of the most valuable books published for some time is this history, so accurately and picturesquely told by Miss Roberts. It is a panorama of the last fifty years — the first half of the twentieth century, and a faithful interpretation of the nursing of that period. As the publisher states, "this is a biography, not of a person, but of a profession."

Some there are who can recall each event, the early schools of nursing, the first professional organizations, the small group of brilliant women who had the vision and independence of thought to work — aye, to struggle — for the educational and social changes that have made possible nursing as it is in 1955.

Commencing at the "Turn of the Century" and bringing the reader through the different phases — the introduction of State Registration — public health — the various studies that were made — the constant emphasis on the distinction between "the functions of a nursing school and nursing service" — the preparation of male nurses — the introduction of auxiliary workers — and the development of sound curricula to meet the rapidly changing medical and social needs are described in detail. She cleverly defines the fundamental distinction between medicine and nursing resulting from the oft-made criticism that "nurses are being over-educated."

The period of the Depression years, 1929-35, is graphically described in the chapter on "Sharing," which also shows the almost revolutionary changes that took place

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as a result of the efforts made at that time to improve nursing service and also the social and professional status of the nurse. The development of public health services, industrial nursing, and many other specialties within the profession are well described.

It portrays accurately the many women who have given so much voluntary work to the raising of standards of nursing to the level of today, while also creating better public relations and understanding. One is glad to note that the majority of these stateswomen — for such they are — were known to many members of the profession; but it is equally fine that the present and future generations of nurses will know them through the pages of this history. Their names appear throughout the volume and in Appendix III. This book so parallels Canadian nursing history that it should be used widely in all professional schools and nursing organizations as an accurate reference and text.

It is interesting to note that both the original national organizations of U.S.A. and their official *Journal* came into being just five years before Canadian nurses were organized.

The frankness with which the author deals with national and local problems is characteristic. The chapters on American nursing during World Wars I and II show graphically the demands on the country's health services and the rapid adjustments made to cover both military and civilian needs.

In the various studies of institutional staff problems — which were published, in part, to give better service to patients and also teach better nursing — one is glad to see reiterated in this volume that "the greatest menace to a good nursing service undoubtedly is placing more work upon the shoulders of nurses than they are able to do and do well." That is a far cry from the 12 to 14-hour day, or the private duty nurses' 24-hour service! One wonders, however, what the nurses of those days would have said (or thought) if they could have foreseen a chapter in this history, "Nursing Practice in the Atomic Age."

It is an added tribute to the vision of the writer that she finishes her work with the international scene and the contribution a national association has made towards better nursing service and world peace.

Each chapter of the book gives excellent and helpful bibliograhy; it is well indexed, and the four appendices and a glossary make for easy reference.

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It is specially interesting to note the generosity and wisdom of the *American Journal of Nursing* from the beginning of the A.N.A. in publishing the various studies, experiments and changes that were taking place from time to time. This is most noticeable in the bibliography.

The foreword by Lucille Petry Leone expresses well the great contribution Mary Roberts has made to nursing, nationally and internationally, and the indebtedness of the members of the profession for this excellent treatise which, to quote Mrs. Leone, was "Miss Roberts' own aim — that the book help readers to see nursing clearly and see it whole."

Microbiology and Pathology, by Charles F. Carter, M.D., and Alice L. Smith, M.D. 847 pages. McAinsh & Co. Ltd., 1251 Yonge St., Toronto 7. 5th Ed. 1953. Price $5.50.

Reviewed by Patricia O'Dwyer, Science Instructor, St. Joseph's Hospital, London, Ont.

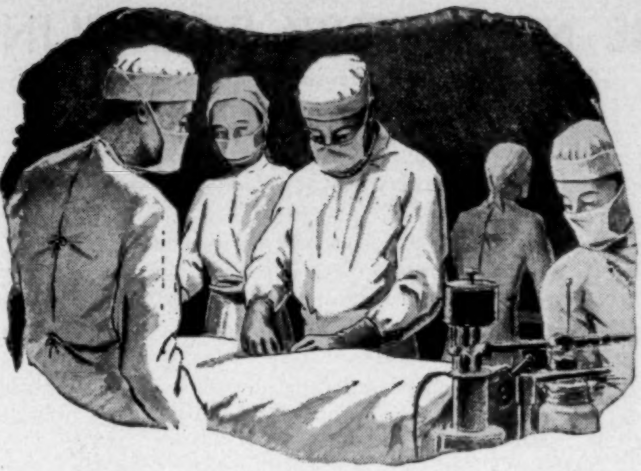
The years which have elapsed between the publication of the first and fifth editions of this book show marked changes in the concept and management of disease. Such changes, as the use of sulfonamides and antibiotics, the increase in the incidence of cancer, the appearance of previously unrecognized disease and the development of new ideas concerning already known diseases, have influenced greatly the teaching in this field. With these facts in mind, the first portion of the book written in 1928 has been rewritten and rearranged. The second part has been newly added.

Part I deals with the fundamentals of microbiology, stressing the factors upon which the scientific nursing of infectious diseases and their prevention depend, and the practical application and scientific bases of immunological methods, vaccine and serum therapy.

Part II, devoted to pathology, emphasizes the fact that signs and symptoms are but outward manifestations of underlying changes. It explains the mechanism of these changes, the body's reaction to them, and gives a practical application of this knowledge to bedside nursing.

This text contains a wealth of valuable and interesting material. The excellent illustrations, the inclusive glossary and index, and the practical, explicit questions make it excellent for both teaching and reference purposes.

Its clear, forceful presentation, its broad scope and quantity of reference material make this book a valuable contribution to the library of both undergraduate and graduate nurse.



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— *Journal of the American Dietetic Association* (*30*:766, 1954)

News Notes

ALBERTA

District 1

Grande Prairie

The annual report of the chapter recorded an enrolment of 26 members with an average attendance of 15. Proceeds of a home cooking sale amounted to $38.50 Guest speakers at meetings were: Dr. Valentine, an illustrated talk on life on the island of Yapp, and L. Kremer, on polio nursing, with appropriate films. Members assisted in the cancer booth at the County fair and with the blood donor clinic. Social events included a Christmas party and farewell parties for Mmes Christie and Stranatka who have left the community. Mrs. L. Wilkinson was delegate to the convention in Edmonton.

Twenty members attended the January meeting when it was decided to submit a resolution to the council concerning the lowering of active membership fees to $12.50. The new executive is as follows: President, Mrs. P. Sharpe; vice-president, Mrs. K. Murray; secretary, M. Pool; treasurer, Mrs. G. Turner; program committee convener, Mrs. E. Stevenson. Miss B. Tomlinson of the C.B.C. gave an interesting talk after the meeting.

Peace River

Fourteen members attended the January meeting of the chapter when the president, Mrs. H. Thompson, was in the chair. Mmes Bowen, Beggs, Bierangel, and Greenfield volunteered to assist with the Well Baby clinic in February; after that time it will be operated by the newly formed public health unit. Donations to the health unit and the Municipal Hospital were decided upon and layettes for needy infants were planned.

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DISTRICT 2

CAMROSE

Thirty members attended the January meeting of the chapter. It was decided to donate $150 to St. Mary's Hospital for the purchase of a projector.

PONOKA

The annual election of officers took place in November and resulted as follows: President, Mrs. J. Crowhurst, vice-president, Mrs. E. Coombs; secretary-treasurer, M. Sundberg. Those assisting in other capacities are: E. Kamp, I. Morell, P. McMillan, A. LaPlante, Mmes N. Kinnear, E. Clapp. Mrs. V. Evans is the representative to *The Canadian Nurse*. The Well Baby Clinic under the supervision of Mmes Kjar and Gardener is operating successfully. A Christmas party was held. Mrs. W. Norquay spoke on newer developments in tuberculosis nursing at the January meeting and L. Kremer gave an informative talk on nursing in polio at the February meeting.

WETASKIWIN

New officers elected by the chapter are: President, Mrs. B. Fearnehough; vice-presidents, Mmes Davidson, O. Reimer; secretary-treasurer, Mrs. D. Bunnin. Miss H. Penhale, professor of nursing at University of Alberta, gave a stimulating talk on the educational aspects of nursing. A question period followed. At a previous meeting, Dr. Mickie, superintendent of Ponoka Provincial Mental Hospital, was guest speaker. F. McWhinnie attended the provincial convention in Edmonton in the fall. A cheque for $50 was sent to the Bethany Home for Children.

DISTRICT 3

BANFF

It was reported at the annual meeting of the chapter that the total enrolment of members was 34. The main objecive of the year was to raise funds to furnish a three-bed children's ward at the Mineral Springs Hospital. Towards this end sponsorship of ten weeks of presenting the film, "A Film Tour of Canada," featuring one province a week, was undertaken. Proceeds from a cake sale and raffle also helped substantially. Attendance at the Pre-School and Well Baby Clinic averages 50 to 60. A contribution of $20 was sent to the Unitarian Service Committee of Canada to aid Korean children. Other projects include assistance with the Blood Donor clinic and the Cancer Campaign.

HIGH RIVER

Twenty-six members attended the February meeting of the chapter under the chairmanship of Mrs. Goodwin. The total number enrolled in 39. By-laws were discussed and accepted as drawn up.

OLDS

Dr. Keys, medical officer of Mountain

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View Health Unit was guest speaker at the February meeting of the chapter and his outline of the structure, membership and duties of health units was interesting. Miss Nesbitt was in the chair.

VULCAN

Nine members attended the February meeting of the chapter. Mmes P. Collier, M. Graham, S. Manning were appointed committee conveners. An outline of staff and supply requirements for five local civil defense stations was drawn up.

DISTRICT 4

MEDICINE HAT

An average of 23 members attended the six meetings from September 1954 to February 1955. Three delegates attended the provincial annual meeting in Edmonton. Guest speakers at meetings included: Alderman J. W. Douglas, chairman of the provisional hospital board, on proposals for the new municipal hospital; L. Kremer, on medical services for civil defence. New officers are: President, Mrs. G. McKay; vice-presidents, Mmes A. Renner, R. Wall; secretary, F. Ireland; treasurer, Mrs. E. Richard; in other capacities, L. Greene, Mmes C. Keating, Findlay and Perry.

DISTRICT 5

HANNA

Highlights for the year contained in the annual report of the district included: A lecture by Dr. Wilkins on the polio refresher course in Edmonton; Easter tea providing $61.41 for funds; and attendance of Mmes White, Stevens and Pennock at the convention in Edmonton.

DISTRICT 6

LACOMBE

At the organizational meeting of the chapter in September, Mrs. C. Van Dusen, provincial registrar, spoke on the functions and possible activities of a chapter. All nurses of the district including Bentley and Alex were invited to join. Temporary officers were elected. L. Kremer was guest speaker at two following meetings; her talks were on Civil Defence with a film on first aid and on the nursing care and therapy of a polio patient, illustrated by two films.

At the January meeting, by-laws and functions were discussed and few changes were considered necessary. Permanent officers were elected as follows: President, Mrs. M. Sissons; vice-president, Mrs. E. McFetridge; secretary-treasurer, Mrs. B. Hay. M. Wilton is program convener. The annual inactive membership fee is $1.00.

RED DEER

New officers for the district are: President, E. Buchan; vice-president, Mrs. O. Johanson; treasurer, J. Youill; secretary Mrs. P. Truant. Part of the funds raised

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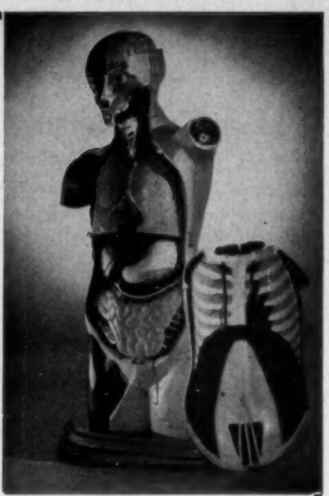

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by a raffle, candy sale and dances during the year was used for treatment of a polio patient and in assistance to charitable organizations. A new set of by-laws was presented and accepted by members.

DISTRICT 7

EDMONTON

In the annual report of the district, it was noted that nine regular meetings were held. A cash donation was made to the Local Council of Women. Members attended a course in ward management at the University of Alberta. Officers elected are: Chairman, R. Ball; vice-chairmen, D. Watson, I. Reesor; secretary, B. Farquharson. Twenty-seven members attended the February meeting when it was decided to support the resolution that the superintendent of child welfare be a specially trained social worker and also to support the Council in thanking the government for assistance to the Colombo Plan, with a recommendation of greater support. Mr. Lang of the Workmen's Compensation Board presented a film entitled "Public Speaking."

University of Alberta Hospital

A fund has been started by the alumnae association to purchase a painting to be hung over the fireplace of the nurses' residence, in memory of Miss Helen Peters and her long association with the hospital. Contributions to this fund may be sent to any one of the following: J. Clark, director of nurses, U. of A. Hospital; Mrs. R. Lesik, South Side Health Clinic, 10335-83rd Ave.; Mrs. Keith Lea, vice-president of the alumnae, 11022-87th Ave.; Mrs. Robert Day, 11106-77th Avenue.

JASPER

Ten members and a guest attended a recent meeting of Edith Cavell Chapter at the home of Mrs. Brodie. Routine business was transacted.

STONY PLAIN

Among the guest speakers mentioned in the annual report of the chapter were: Mrs. C. Van Dusen, provincial registrar, in regard to organization of the chapter last March; L. Kremer, Mr. Jamieson and Mr. V. Katcherofsky, on Civil Defence; B. Cogland, local public health nurse, on polio vaccine tests; Mrs. J. Oliver, district secretary of the Canadian Cancer Society; Mrs. W. Norquay, nurse consultant of the Alberta Tuberculosis Association, on aspects of tuberculosis and new drugs and treatments being used. Miss Kremer conducted a polio refresher course, attended by 14 members.

VEGREVILLE

Officers elected at the annual meeting of the chapter are as follows: President, Mrs. M. Owens; vice-president, Mrs. W. Newsham; secretary, Mrs. I. Pawliuk. Projects included a card party, a bake sale and raffle, and assistance with Hospital Day. Films were presented at two meetings. A picnic honoring the graduates of St. Joseph's Hospital and a Christmas party were held.

Sr. Helen and Sr. Marie Angus spoke on the well organized civil defence program in Camrose at the February meeting.

Viking

During the past year the chapter sponsored St. John's Ambulance home nursing and first aid classes. Twenty diplomas were awarded in each class. The tag day netted $68. Misses Lawes, Ellison, and Pawlischuk spoke to high school students on the subject of a nursing career. Mrs. R. Peterson from the Edmonton Cerebral Palsy Association gave an illustrated talk in November and it was decided to make assistance to this work a special project. New officers are: President, Mrs. Sorenson; vice-president, Mrs. McCauley; secretary-treasurer, Mrs. Fitzmaurice; program convener, Mrs. Brawer.

District 8

Blairmore

It was noted in the annual report of Crows Nest Chapter that the annual scholarship to the student with the highest average wishing to enter training was awarded to J. Kilgannon. Members assisted with the Blood Donor clinics and held two bake sales and a raffle. Social events included a wiener roast and a Christmas party.

Officers elected are: President, Mrs. M. Allan; vice-president, Mrs. J. Fantin; secretary, H. Clemis; treasurer, K. Perpletza.

MacLeod

Officers were elected at the annual meeting of Fort MacLeod Chapter as follows: President, Mrs. D. Schuitema; vice-president, Mrs. C. Pelltier; secretary, J. Jarman; treasurer, Mrs. J. Heath.

BRITISH COLUMBIA

New Westminster

Guest speakers at meetings of South Fraser Chapter during 1954 included: Dr. A. J. Nelson of the provincial Department of Health, on the epidemiology of poliomyelitis; Mrs. L. Harvey of the provincial Child Guidance clinic, on the emotional problems of children, illustrated by the film, "Family Circles"; Dr. J. F. McCreary of the University of British Columbia, on infant feeding; C. Lund, nurse with the Sudan Interior Mission, on nursing in Ethiopia; and Dr. R. E. Outerbridge, medical missionary, on China and the challenge of Communism. Following the report of C. Thompson on the R.N.A.B.C. council meeting, the film, "By Jupiter" was shown. A film entitled "The Feeling of Rejection" was shown at the annual meeting.

Officers elected are: President, Mrs. E. Kelly; vice-presidents, O. Clancy, Mrs. A. Sloan; secretary, Mrs. T. Urquhart; treasurer, Mrs. J. Loney. Others assisting include: M. Ward, A. Beattie, Mmes G. King, L. Hughes, Heppell, L. Matheson, N. Humphries, P. Payton, B. Horne, M. Mowat, M. Ivens.

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TRAIL

Mrs. Ross, president, was in the chair at the February meeting of the chapter. A motion was passed to set aside $100 for the purchase of books for the nurses' library. A valentine bridge and a rummage sale in November were planned. Tentative profit from proceeds of the annual ball were $209. Miss Whittington stated in her public health report that the first dose of Salk polio vaccine in the district will be given in April. Miss Eidt reported that the weekly lectures were a success; Dr. McCreary will give the concluding one in the series.

MANITOBA

WINNIPEG

General Hospital

At the February meeting of the alumnae association, P. Hart presented a corsage to Miss E. Russell who recently retired as director of public health nursing in Manitoba. The guest speaker for the evening was Miss M. McMurray, barrister-at-law, who chose as her topic, "Laws of Interest to Every Woman."

Misericordia Hospital

At the capping ceremony held recently, 19 student nurses received their caps from Sr. St. Odilon, director of nurses. M. LaCroix presented the Nightingale lamps and they were lit by Miss Schentag, president of the student nurses' association. N. Morasutti was the organist and Mr. Croteau and Mrs. Borislawsky sang solos.

St. Boniface Hospital

The president, M. Gibson, conducted the annual meeting of the alumnae association. Graduating classes of 1913-55 were represented by 192 members. Sr. D. Clermont reported on the progress of the new wing, and noted that the official opening was scheduled for March. M. Wilson spoke on the coming C.N.A. biennial convention to be held at the University of Manitoba in 1956. B. Allen, recently appointed assistant director of nursing services, was introduced.

NOVA SCOTIA

HALIFAX

Victoria General Hospital

The memorial to the nurses who gave their lives in World War I has been moved to the main entry hall of the nurses' residence. The ceremony took place following a meeting of the alumnae association. The president, Mrs. H. Williams, introduced the speaker, Miss Sadie Archard, a former graduate, who had known these nurses overseas and had been present at the unveiling of this memorial in 1922 at the old hospital. Dr. C. M. Bethune, superintendent, spoke briefly.

The Christmas tea and sale added $517 to the funds of the association. Members of the 1955 graduating class were guests of honor at the February meeting. M. Graham, guest speaker, gave an interesting talk on her work with WHO in Burma. A variety concert by a group of internes and a fashion show were also included in the program.

ONTARIO

District 5

Toronto

Another record breaking year was reported by the membership committee at the annual meeting of the district. A total of 3,978 members enrolled shows an increase of 520 over last year. Bursaries made possible by the contributions of several professional and business organizations were granted to 10 student nurses in 1954. J. Wilson chaired the meeting while Mr. T. Hanson, as guest speaker, talked on "Creative Imagination at Work."

Those elected to office are: Chairman, J. Wilson; vice-chairmen, R. Watson, Mrs. R. Crouse; secretary-treasurer, Mrs. M. Chisholm; councillors, A. Shiach, E. Davidson, J. Gerion, D. Dix. Chairmen of Chapters 1 and 2 are J. Hefferman and Mrs. V. McPherson, respectively.

District 8

Ottawa

General Hospital

The alumnae of the hospital and the University of Ottawa School of Nursing held a recent institute on mental health and psychiatry. Participants in the program were: Dr. K. Stern, Dr. V. Voyer, Dr. G. Morin, Dr. S. C. R. Chalke, Misses B. Kelly, E. Locke and Mr. Beaudry. Activities included a panel discussion on the psychiatric patient and the community and a visit to the Child Guidance clinic.

Recent appointments are: J. Sabourin, as health nurse in the House of Commons; K. Bayley, nursing counsellor in the Department of National Health and Welfare; R. MacIsaac, assistant secretary of the Canadian Nurses' Association. M. Moore is superintendent of Pontiac Memorial Hospital, Shawville, Que., while T. D'Aoust is health coordinator at St. Mary's Hospital, Montreal. D. Lamb and E. Brady are on general duty at St. Vincent's Hospital, Ottawa.

Srs. St. Ruth and St. Martial have completed a course in team nursing at Columbia University. M. Murray is studying nursing education at U. of O. and T. Paquet and A. Lalonde are taking courses in public health nursing.

Dr. E. Peterson gave an illustrated lecture on neuro-surgery at the annual meeting. Election of officers resulted as follows: Honorary president, Sr. M. Idella; honorary

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QUEBEC

MONTREAL

Royal Victoria Hospital

In response to a motion made by Miss Winnifred Chute, recently returned from India, the alumnae association has voted the funds necessary for a second printing of M. Edith Buchanan's text, "A Study Guide in Nursing Arts," Undertaken as a thesis in preparation for her doctorate in education at Columbia University in 1953, the text helps to meet the needs of Indian students of nursing in their particular situations. A graduate of R.V.H. in 1931, Miss Buchanan was on the teaching staff for three years after she obtained her certificate in teaching from the McGill School for Graduate Nurses. In 1937 she joined the staff of the Lady Hardinge Medical College Hospital in Delhi. A course in midwifery and a year of study at the University of Toronto followed. Closely associated with the planning and development of the College of Nursing in New Delhi, Miss Buchanan is vice-principal of this institution. "A Study Guide in Nursing Arts" is an outstanding contribution and the alumnae is very proud of its author and her great experience and knowledge with regard to health and nursing problems in India.

Dr. L. Stevenson, assistant professor of the history of medicine, was guest speaker at the February meeting of the alumnae association. A tea in honor of Miss Gertrude Yeats who retired from the staff recently was held in the nurses' home. Presentations were made by the student body, the graduate nurses' association, and the medical staff. Miss Yeats plans to live in Kingston, Ont.

J. Cockerline is assistant head nurse, Ward M, while O. (Sweetapple) Peyton is on the staff of Ward J, and E. Gordon, the diagnostic service, Ross Memorial. Those who have joined out-of-town staffs include: G. Mowat, Woodstock General Hospital, Ont.; M. McRae, Oshawa General; E. Brown and F. Lyons, Victoria General, Halifax; B. L. Collins, Sarnia General; M. James, King Edward VII Memorial, Bermuda; L. McNeil, Georgetown University Hospital, Washington. Those with the V.O.N., are: I. Patterson, charge nurse, Dartmouth, N.S., and J. Lordly, Halifax. I. Yeik (Capt., A.N.C.) is at the William Beaumont Army Hospital, El Paso, Texas, while M. Willett is stationed with the R.C.N., Shearwater, N.S. J. Dunning is at Lachine General Hospital. K. Wamboldt is working in Halifax and I. Lewis in Bedford, N.S., while M. (Allan) McBride is attending Dalhousie University.

Mrs. F. A. C. Scrimger has accepted the chairmanship of the out-of-town chapters. G. Purcell was a guest speaker at a recent meeting of the Ottawa chapter.

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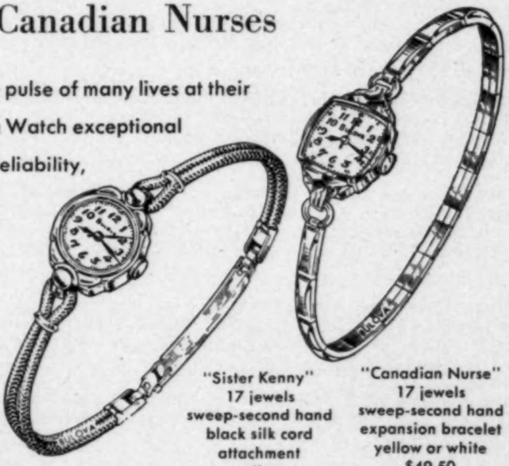

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Gross salary commensurate with experience, 28 days vacation after one year, 8 statutory holidays, sick leave accumulative to 60 days; Residence accommodation available at reasonable rates. Hospital has recently completed a well equipped and staffed wing with extensive renovation program progressing in the old section.

APPLY DIRECTOR OF NURSING

Graduate Nurses for General Staff Duty in 350-bed Tuberculosis Hospital in Laurentian Mts. For further information, apply Director of Nursing, Royal Edward Laurentian Hospital, Ste. Agathe des Monts, Quebec.

Staff Nurses for 600-bed General Hospital with School of Nursing. Salary: $273-322. Shift & education differentials. 40-hr. wk. 12 holidays; cumulative sick leave; 3 wks. vacation. Apply Director of Nursing Service, General Hospital, Fresno, California.

General Duty Nurses for modern 75-bed Hospital. Basic salary $170, plus maintenance. Apply Administrator, Dufferin Area Hospital, Orangeville, Ont.

Graduate Nurses for General Duty. Living-in accommodation if desired. Apply Supt. of Nurses, Homewood Sanitarium, Guelph, Ont.

General Duty Nurses for Medical, Surgical, Pediatrics, Obstetrics. Good salary & personnel policies. Apply Director of Nursing, Victoria Hospital, London, Ont.

Supervisor of Nursing for 28-bed general hospital in Huntingdon County, in a small industrial town 45 miles from Montreal, offering many pleasant social and recreational activities. Pleasant working conditions; living quarters in hospital; annual holiday of 1 mo.; statutory holidays; two wks. sick leave; Blue Cross paid. No previous Supervisor has ever left us due to dissatisfaction with working conditions or salary. Losses mainly have been due to marriage. Good starting salary. Apply: F. G. McCrimmon, M.D., Medical Superintendent, Box 488, Huntingdon, P.Q.

Public Health Nurse for well established generalized program in Grey County, population of town, 4,000. Minimum salary: $2,600; allowance made for experience; 4 wks. vacation. Apply to D. D. Brigham, Secretary, Board of Health, Hanover, Ont.

Registered Nurse with pediatric training. Apply to: Matron, Julius Richardson Convalescent Hospital, 5425 Bessborough Ave., Montreal 29, Que.

Operating Room Supervisor; Salary: $220 per mo.; **Graduate Nurses for General Staff Duty,** Salary: $190 per mo., for 50-bed hospital, living-in accommodation in residence. Apply: Supt., Port Hope Hospital, Port Hope, Ont.

Public Health Nurses (qualified) for generalized public health nursing city service, and (1) for secondary school program. Basic salary: $2,700 adjusted according to experience on starting. Annual increment $150; shared pension, medical care and hospitalization plans; sick leave accumulative; transportation provided or car allowance. Apply: Medical Officer of Health, Peterborough, Ont.

Registered Nurses for 38-bed general hospital. Salary: $255 with periodic increases; excellent personnel policies. For further information contact: Supt. of Nurses, Red Wing City Hospital, Red Wing, Minnesota.

Instructor to teach anatomy and physiology, microbiology first term, followed by surgical nursing lectures and clinical supervision on surgical wards. Starting salary: $225; $10 for 2 yrs. experience; $10 yearly increments; 1½ days sick leave, cumulative; 10 statutory holidays; 40-hr. wk; 1 class per yr. in September. Apply to: Director of Nurses, Royal Inland Hospital, Kamloops, B.C.

WOODSTOCK GENERAL HOSPITAL
WOODSTOCK, ONTARIO

REQUIRES

One Science Instructor — One Night Supervisor
Two Clinical Instructors (one qualified in Obstetrics)
Additional staff for our new Hospital.

Apply:

MISS PHYLLIS BLUETT
DIRECTOR OF NURSING

Dietitian for 96-bed hospital with student body of 48; 40 miles from Edmonton; good transportation; Starting salary: $250 gross; 44-hr. wk; all statutory holidays; 1 mo. holiday at end of yrs. service. Apply: Supt. of Nurses, Archer Memorial Hospital, Lamont, Alberta.

Operating Room Supervisor for 70-bed general hospital. Salary: $200 per mo. and up, depending on qualifications; good personnel policies. Apply Supt., Ross Memorial Hospital, Lindsay, Ont.

Public Health Nurses (4) for newly organized unit which is being extended to include Kapuskasing, Smooth Rock Falls and surrounding unorganized territory. Attractive working conditions; good salary; 5-day wk; 4 wks. annual vacation; car provided; special allowance for a French-speaking nurse. Apply to: Secretary, Porcupine Health Unit, 164 Algonquin Blvd. E., Timmins, Ont.

Asst. Supt. of Nurses for August 15, 1955. Salary: $266 — 321 per mo. also **Senior Instructor** for August 1 to direct teaching program and teach nursing arts. Salary: $266-321 per mo. **Clinical Instructor** immediately to teach psychiatric nursing on male wards. Salary: $266-321 per mo.; also **Graduate Nurses with Psychiatric Training.** Salary: $216-256 per mo.; without psychiatric training, $211-251 per mo. All for 1450-bed active treatment hospital conducting an accredited school of training; 44-hr. wk; residence with board, if desired, $30 per mo. Excellent holiday, sick leave and pension programs. Apply, stating qualifications and experience to Supt. of Nurses, Provincial Mental Hospital, Ponoka, Alta.

Supervisor, medical floor and pediatrics, day shift, salary: $295; **Evening Supervisor,** 3-11, salary: $300. **General Duty Nurses,** (3) for obstetrical floor and O.R., salary: $260; $10 increase every year, all personnel. For further information write: Director of Nursing Service, St. John's Hospital, Corner Fifteenth and Douglas, Longview, Washington.

Public Health Nurse for generalized program in Prince Edward County. Initial salary: $2700; annual increment of $100; allowance for experience. Employee benefits include: Blue Cross, pension plan, sick leave, Workmen's Compensation, and 1 mo. vacation. Liberal transportation allowance. Apply to: W. N. Turpel, M.D., Director, Prince Edward County Health Unit, Picton, Ont.

Supt. of Nurses for new modern 28-bed hospital, active surgical dept. for May 15. Must be capable of hospital purchasing and some knowledge of routine office work. Salary schedule as recommended by S.R.N.A. 3-room suite in separate nurses' residence. Apply: Supt., Indian Head Union Hospital, Indian Head, Saskatchewan.

Public Health Nurse (qualified) for City of Ottawa. Generalized program; good salaries; Blue Cross; superannuation. For full details apply to: Personnel Officer, Labor & Registry Office, Transportation Building, 48 Rideau St., Ottawa 2, Ont.

Applications are invited from **Registered Nurses for Operating Room Duty.** For further information write: Director of Nursing, Victoria Hospital, London, Ont.

Public Health Nurses for generalized program. Minimum salary: $2,700, with allowance for previous experience, and annual increments of $120. Cumulative sick leave plan; pension plan and Blue Cross available; interest-free loans for purchasing cars if necessary. Liberal transportation allowance and holidays. Apply to: A. E. Thoms, M.D., Director Leeds and Grenville Health Unit, Victoria Building, Brockville, Ont.

HOSPITAL MATRON

$3,570 — $3,960

INDIAN HEALTH SERVICES

DEPT. OF NATIONAL HEALTH AND WELFARE, NORWAY HOUSE, MAN.

Details and application forms at nearest Civil Service Commission Office, Post Office or National Employment Office.

QUOTE NO. 55-431

Staff Nurses for 500-bed general hospital; 40-hr. wk.; beginning salary: $270 per mo. with advancement to $305; additional differential $1.50 per afternoon, $1.00 per night. Hospital and school of nursing fully approved. Apply: Director of Nursing, The Grace Hospital, 4160 John R. St., Detroit 1, Michigan, U.S.A.

Assistant Science, and **Nursing Arts Instructor.** 1 class yearly, 35 in class. Commencing salary: $250. For further information apply: St. Michael's School of Nursing, Lethbridge, Alberta.

Registered Nurse for 8-bed hospital. Salary: $240 per mo; full maintenance provided for $30 per mo. Apply to: J. E. Hunter, Box 40, Hodgeville, Sask.

Head Nurses, Evening Supervisor, and **Nursing Arts Instructor.** Salaries according to qualifications and experience. Apply: Director of Nursing, The Children's Hospital, Winnipeg, Manitoba.

Pediatric Charge Nurse for children's service of 44 beds. Graduate nurse with post graduate study preferred. Apply: Director of Nurses, Royal Alexandra Hospital, Edmonton, Alberta.

Operating Room Supervisor for 400-bed hospital. Good salary and personnel policies. Apply: Director of Nurses, General Hospital, Saint John, N.B.

Evening Supervisor. Hours 3:00-11:00 p.m. Good salary. For further information apply: Supt., Memorial Hospital, St. Marys, Ont.

Graduate Nurses for Permanent and Holiday Relief for 50-bed active hospital situated within easy distance of Vancouver; 44-hr. wk. Basic salary: $240 per mo. plus $10 per mo. extra if registered in B.C.; individual rooms in separate staff residence. Apply: Miss M. R. Ward, Supt., Langley Memorial Hospital, Murrayville, B.C.

General Duty Nurses for 650-bed teaching hospital situated in central California. Salary: $273-320 per mo; 40-hr. wk.; liberal vacation, holiday and sick leave plan. Apply: Personnel Office, 510 E. Market St., Stockton, Calif.

Registered Nurses for General Staff Duty in 35-bed hospital. Good personnel policies. Gross salary: $235 if B.C. registered, otherwise $225; 40-hr. wk. Apply: Matron, Ladysmith General Hospital, Ladysmith, B.C.

Registered Nurses for General Staff Duty in 40-bed hospital. Operating room experience an asset. Good personnel policies, transportation refunded after 6 mos. service. Apply to Supt., Queens General Hospital, Liverpool, N.S.

Registered Nurse (1) for 10-bed hospital. Salary: $200 per mo. plus full maintenance. 8-hr. shifts, 3 wks. holiday per yr. For further particulars apply: Mercoal Health Centre, Mercoal, Alta.

Staff Nurses. Minimum salary: $2,700 plus annual increments as determined by the Board, to a maximum of $3,100. Policies are 38-hr. wk., 3 wks. holiday with pay, all statutory holidays, 2 days per mo. sick leave accumulative to 48 days. Uniforms provided. Apply: W. M. Abraham, Sec. Treas., Kent County Board of Health, 7th St., Chatham, Ont.

Public Health Nurse for York Township. Minimum salary: $2,800 with annual increment, accumulative sick leave, 5-day wk., pension plan. Generalized program. Apply: Dr. W. E. Henry, Medical Officer of Health, 2700 Eglinton Ave. W., Toronto 9, Ont.

Surgical Instructress for 176-bed hospital. Good personnel policies. Apply Director of Nurses, Providence Hospital, Moose Jaw, Sask.

Registered Nurses for General Duty and Operating Room in 200-bed hospital in Niagara Peninsula. Gross salary: $210; afternoons: $220; nights: $215. Annual increments; 44-hr. wk.; cumulative sick leave; 8 statutory holidays; 3 wks. annual holiday. Accommodation available in attractive residence. Apply: Director of Nursing, Welland County General Hospital, Welland, Ont.

Official Directory

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270 Laurier Ave., W., Ottawa

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Ass'n of Nurses of Prince Edward Island, Miss Muriel Archibald, Cabot Building, Duckworth St., Charlottetown.

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Saskatchewan Registered Nurses' Ass'n, Miss Lola Wilson, 401 Northern Crown Bldg., Regina.

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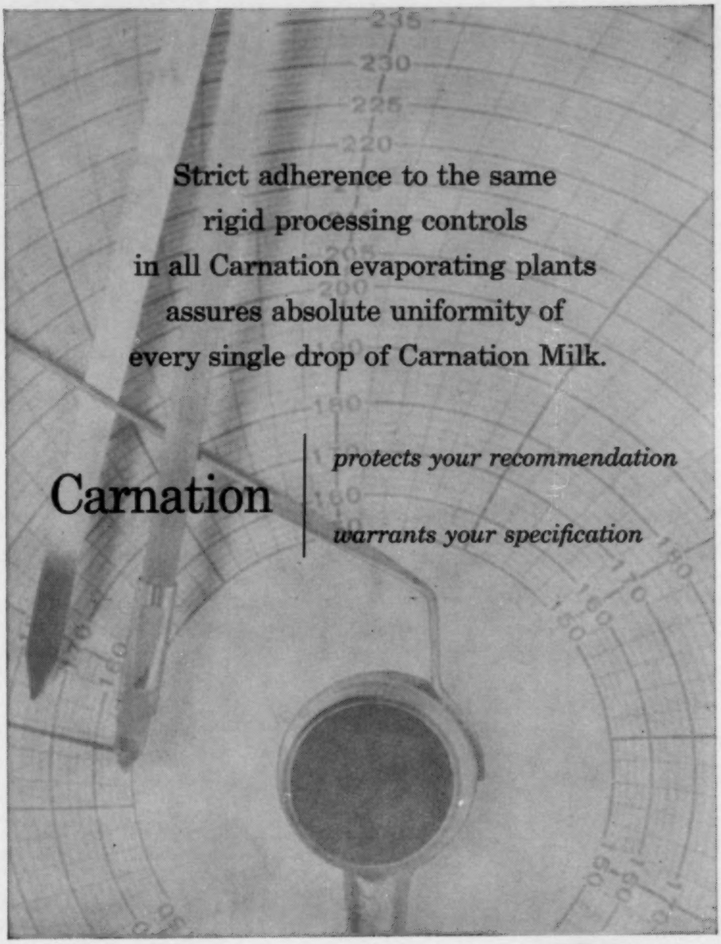
International Council of Nurses: 19 Queen's Gate, London S.W. 7, England. *Executive Secretary,* Miss Daisy C. Bridges.



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